AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
J	1 of 34

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO.(If applicable)
0003	10-Sep-2004	W16ROE-3255-0713	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
USA ENGINEER DISTRICT, NEW YORK ATTN:CENAN-CT ROOM 1843 26 FEDERAL PLAZA NEW YORK NY 10278	W912DS	See Item 6	

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		
	X	9A. AMENDMENT OF SOLICITATION NO. W912DS-04-R-0001
	X	9B. DATED (SEE ITEM 11) 06-Aug-2004
		10A. MOD. OF CONTRACT/ORDER NO.
		10B. DATED (SEE ITEM 13)
CODE / FACILITY CODE		

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

[X] The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer [X] is extended, [ ] is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning 1 copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

[ ] A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

[ ] B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

[ ] C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

[ ] D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor [ ] is not, [ ] is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

The purpose of this amendment is to:

1) To incorporate questions and answers. Answers are for informational purposes only.
2) To incorporate changes to the specifications and drawings
3) To incorporate a revised bid schedule.
4) The cut-off date for questions is 15 Sept 2004 5:00pm local time.

The proposal due date remains unchanged, 20 Sept 2004 at 2:00pm local time.

All other terms and conditions remain unchanged as a result of this amendment.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) TEL: EMAIL:	
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY _____ (Signature of Contracting Officer)	16C. DATE SIGNED 10-Sep-2004

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION SF 30 - BLOCK 14 CONTINUATION PAGE

The following have been added by full text:

AMENDMENT 3

NOTE: Bidders must acknowledge receipt of this amendment by the date specified in the solicitation (or as amended) by one of the following methods: In the space provided on the SF 1442, by separate letter, or by telegram, or by signing the block 15 below. FAILURE TO ACKNOWLEDGE AMENDMENTS BY THE DATE AND TIME SPECIFIED MAY RESULT IN REJECTION OF YOUR BID IN ACCORDANCE WITH THE LATE BID, LATE MODIFICATIONS OF BIDS OR LATE WITHDRAWAL OF BIDS (FAR 14.304)

The following changes shall be made to the drawings and specifications.

DRAWINGS
The following drawings have been **REVISED** and **REISSUED**. Changes to the drawings are labeled "BID AMENDMENT #2" and should read "BID AMENDMENT #3".

T100.1	COVER SHEET, VOLUME 1
T101.1	MAPS & DRAWING LISTS, VOLUME 1
A000	ABBREVIATIONS, LEGEND & NOTES
A101	FIRST FLOOR PLAN
A102	SECOND FLOOR PLAN
A103	THIRD FLOOR PLAN
A104	FOURTH FLOOR PLAN
A105	FIFTH FLOOR PLAN
A106	SIXTH FLOOR PLAN
A201	SOUTH BUILDING ELEVATION
A204	PARTIAL BUILDING ELEVATIONS
A300	LONGITUDINAL BUILDING SECTION - 1
A302	TRANSVERSE BUILDING SECTION - 2
A303	TRANSVERSE BUILDING SECTION - 3
A401	FIRST FLOOR REFLECTED CEILING PLAN
A405	FIFTH FLOOR REFLECTED CEILING PLAN
A406	SIXTH FLOOR REFLECTED CEILING PLAN
A504	WALL SECTIONS - 5
A600	INTERIOR PLANS & ELEVATIONS - 1
A616	INTERIOR ELEVATIONS - 7
A617	INTERIOR ELEVATIONS - 8
A706	SIXTH FLOOR FURNITURE PLAN
A723	THIRD FLOOR FINISH PLAN
A726	SIXTH FLOOR FINISH PLAN
A833	SECTION DETAILS - 4
A835	SECTIONS DETAILS - 6
A855	INTERIOR DETAILS - 6
A874	CUSTOM SHELVING SH04-SFWD (BID OPTION #9)
A911	DOOR SCHEDULE: BSMT & PART. 1ST FL
A922	FINISH SCHEDULE: 1ST FL (CONT.), 2ND FL & 3RD FL

T100.2 COVER SHEET, VOLUME 2
T101.2 MAPS & DRAWING LISTS, VOLUME 2
FP101 FIRE PROTECTION - BASEMENT PLAN
FP101 FIRE PROTECTION - FIRST FLOOR PLAN
FP102 FIRE PROTECTION - SECOND FLOOR PLAN
FP103 FIRE PROTECTION - THIRD FLOOR PLAN
FP104 FIRE PROTECTION - FOURTH FLOOR PLAN
FP105 FIRE PROTECTION - FIFTH FLOOR PLAN
FP106 FIRE PROTECTION - SIXTH FLOOR PLAN
M100 HVAC- BASEMENT PLAN - DUCTWORK
T100.3 COVER SHEET, VOLUME 3
T101.3 MAPS & DRAWING LISTS, VOLUME 3
E202 ELECTRICAL - SECOND FLOOR RECEPTACLES PLAN
E301 ELECTRICAL - FIRST FLOOR LIGHTING PLAN
E305 ELECTRICAL - FIFTH FLOOR LIGHTING PLAN
T100.4 COVER SHEET, VOLUME 4
T101.4 MAPS & DRAWING LISTS, VOLUME 4
ASB1-AR BASEMENT ASBESTOS ABATEMENT
ASB2-AR FIRST FLOOR ASBESTOS ABATEMENT
LBP1-AR BASEMENT LEAD BASED PAINT ABATEMENT
LBP2-AR FIRST FLOOR LEAD BASED PAINT ABATEMENT
A101-AR FIRST FLOOR CONSTRUCTION PLAN
A401-AR FIRST FLOOR REFLECTED CEILING PLAN
A101-AR FIRST FLOOR CONSTRUCTION PLAN
A401-AR FIRST FLOOR REFLECTED CEILING PLAN
A601-AR INTERIOR ELEVATIONS
X-A849 MARGIN OF EXCELLENCE, TERRACE DETAILS, MoE ITEM WT1

The following drawings have been **DELETED**:
E720 ELECTRICAL DETAILS - 20
E721 ELECTRICAL DETAILS - 21
E704-AR ELECTRICAL DETAILS - 4

SPECIFICATIONS
The following specifications have been **REVISED** as stated:

Section 01030 Options

Revise paragraph heading **3.1.4 Bid Option No. 4** as follows: DELETE PARAGRAPH.

Revise paragraph heading **3.1.12 Bid Option No. 12** as follows: DELETE PARAGRAPH.

Section 01355 Environmental Protection
Revise paragraph heading **3.6.3.1 Exposed Surface Area** to read as follows:

Paragraph heading should read: **"3.6.3.1 Hazardous Waste Manifests."**

Section 01575 Temporary Environmental Controls

Revise paragraph heading **3.5.1.4.(a) Responsibilities for Contractor's Disposal** as follows:

In the second paragraph of sub-paragraph a., eliminate the following: **"Include the following USMA requirements in this section:"**

Section 02222 Rock Excavation

Add paragraph heading **3.5 Subsurface Data** to read as follows:

"Refer to Appendix A."

Appendix A is attached at the end of this document.

Section 02930 Exterior Planting (Bid Option No. 18)
Revise paragraph heading **2.6.1 Bracing Stakes** as follows:

Replace the words **"57mm diameter dowels"** with **"50 mm square or 64mm in diameter"**.

Revise paragraph heading **2.6.2 Ground Stakes** as follows:

Replace the words **"57mm diameter dowels"** with **"50 mm square or 64mm in diameter"**.

Section 04851 Dimension Stone Cladding
Revise the following paragraph **2.2.2 Limestone** to read as follows:

"**References to "limestone" in drawings and specifications actually refer to sandstone. "Limestone" (actually sandstone)** shall be equal to "Pleasant Hill Buff" sandstone as fabricated and quarried by Briar Hill Stone Company, or approved **sandstone** equal, complying with ASTM C616. **True limestone will not be excepted."**

Section 05700 Ornamental Metals
Revise paragraph heading **2.1.2 Steel Frame Fascia** to read as follows:

"Cast Bronze Fascia and Bronze Plate Countertop, both with red-brown patina and SH #4 clear coat, semi-gloss finish.

Basis for Design: Polich Art Works
453 Route 17K
Rock Tavern, NY 12575
845 567 9464"

Section 08710 Door Hardware

Appendix A is attached at the end of this document.

Section 08810 Glass and Glazing
Revise paragraph heading **3.5 Glass Schedule** to add the following:

"Glass Type	Thickness	Outer Lite	Inner Lite
9	9.53mm	clear tempered	--
10	12.7mm	clear tempered	-- "

Section 09680 Carpet
Revise the following paragraph **3.4.1 Broadloom Installation** to read as follows:

"Broadloom carpet shall be installed **with double-stick rubber padding (by Tred-Mor, tel. 800-435-4062 or approved equal),** and shall be smooth, uniform, and secure, with a minimum of seams."

Section 13202 Fuel Storage Systems

Replace paragraph heading **2.5 Aboveground Storage Tank** in its entirety with the following:

2.5 "Aboveground Storage Tank

2.5.1 General

All tanks shall be double walled. All welds shall be continuous. The primary tank and the secondary containment tank shall have passed a proof of design hydrostatic pressure test of 25 psi.

2.5.2 Primary Tank

The tank shall be UL 142 listed and meet fire code requirements, including NFPA 30, for flammable and combustible liquid storage. The tank shall be equipped with a minimum of (2) lifting lugs, (7) threaded PVC plugs in fittings, and 28 liter spill boxes. It shall have feet to keep it elevated from the surface upon which it is mounted. The outside of the tank shall be coated with an industrial grade maintenance-free weatherproof epoxy coating. If a ladder is required for refueling, such ladder shall be equipped with welded steps. Tank is to be labeled with design capacity, working capacity, and tank number.

2.5.3 Secondary Containment Tank

The secondary containment tank shall be UL142 listed as secondary containment. It shall be rectangular and provide a minimum of 110% secondary capacity. It shall be equipped with (5) NPT openings, and (2) additional NPT openings, one for monitoring the interstitial space and one for an emergency vent.

2.5.4 Fill Ports

Tank fill ports are to be color coded by fuel type as follows:

- **Higher gasoline Red**
- **Middle gasoline Blue**
- **Lower gasoline White**
- **Higher unleaded gasoline Red w/ white cross**
- **Middle unleaded gasoline Blue w/ white cross**
- **Lower unleaded gasoline White w/ black cross**
- **Vapor recovery Orange**
- **Diesel Yellow**
- **#1 fuel oil Purple w/ yellow bar**
- **#2 fuel oil Green**
- **Kerosene Brown**

Symbols to be used are as follows:

- **Circle Gasoline products / Vapor recovery**
- **Hexagon Other distillates**

A border shall be painted around symbols representing fuel products containing extenders such as alcohol. The border will be black around a white symbol and white around any other color."

Section 13930 Wet Pipe Sprinkler System, Fire Protection

Revise first sentence of paragraph heading **1.2.1.1 Basis for Calculations** to read as follows:

"..a static pressure of 413.9 kPA, and a flow rate of 4391.08 LPM at a residual pressure of 344.74 kPA."

Section 13935 Dry Pipe Sprinkler System, Fire Protection

Revise first sentence of paragraph heading **1.2.1.2 Basis for Calculations** to read as follows:

"..a static pressure of 413.9 kPA, and a flow rate of 4391.08 LPM at a residual pressure of 344.74 kPA."

Section 15951 Direct Digital Control for HVAC

Revise Para **2.13 DDC Hardware** to read

" ……portable workstation/tester **AND** the central workstation/tester to network control panels……"

Revise **Para 1.2.9 Contract**:

Replace references to DDC panel with "JACE" Controllers.
Also, add "The existing Williams panels to be reconnected will be upgraded from WEC part #3216 to WEC part #3318."

Delete **Para 2.13.3 Universal Programmable Controller (UPC)** in its entirety and replace with:

"All HVAC equipment, other than central chillers, shall utilize Honeywell XL-15C Controllers or an equivalent that is compatible to the TRIDIUM based BAS and provides 100% of the functions of the XL-15C to include reprogramming from a central location. Controllers shall utilize Honeywell "Work Place Pro" utilities software."

Remove **Para 2.13.1.2 (b)** in its entirety.

Add the following to **Para 2.13.5.1 Chiller Interface to Building Management System**

"Manufacturer's chiller panels shall have a connector port for remote functional control and monitoring of chiller system. The panel shall be compatible with accepting an input from the base wide BAS utilizing JACE controllers and TRIDIUM front end. Panels shall be compatible with Honeywell Work Place Pro Utility software."

Section 16510 Architectural Lighting

Add paragraph heading **3.6 Architectural Lighting Fixture Schedule** to read as follows:

"Refer to Appendix A."

Replace Appendix A with revised appendix, attached at the end of this document.

Section 16711 Telephone System, Outside Plant

Revise paragraph heading **3.1.11 Optical Fiber OSP Backbone Cables** to read as follows:

"Provide single-mode and multi-mode optical fiber cables from the server room via underground conduits to existing manhole #23A as shown on Telecommunications

drawings. Terminate the cables with ST or FC/APC connectors as appropriate and mount into optical fiber patch panels at each end."

Section 16510 Architectural Lighting, Appendix "A" - Addendum 3
Replace Addendum 3 with **REVISED** description for fixture F20, attached at the end of this document.

BIDDER'S QUESTIONS AND GOVERNMENT REPLY

Attached, for information only are the questions submitted by various prospective offerors and the respective answers:

1. Geotechnical section dwg. G-001 refers to logs of borings and results of Auger probes as an Appendix of Spec's Section 0222. We have not found any Appendix or even notes regarding this matter, please clarify

ANS: Boring logs will be supplied as part of Amendment #3.

2. Structrual dwgs. S-500 thru S-503 are shown 51 mm thk. "mud" underneath of bottom of concrete foundation. Please provide us with information regarding this "mud" application(materials, properties,etc., is it "lean concrete"?_.

ANS: "Mud" underneath foundation on S500-03 is lean concrete.

3. Base Bid Item No 0002 required to provide a price of some quantity of rock excavation, shall we consider this quantity as a difference between estimated by Contractor and Engineer mass and trench (including 10% of contingency – Items 0002AA thru 0002AD) rock excavation volume (CM), please, clarify.

ANS: CLIN's 2AA and 2AC are the estimated quantities of mass and trench rock. CLIN's 2AB and 2AD are the estimated additional rock. Price these quantities. These are the estimated quantities based on the subsurface data as per plans and specifications.

4. Asbestos and lead drawings indicate that the Contractor is responsible to field verify locations indicated on the drawings. We are not in a position to lab test the entire building prior to Bid, and How does this note correlate with the Bid form quantities?, please, clarify.

ANS: Lab testing is not required. You are required to abate the estimated quantity as per plans and specifications. If additional quantity is abated during the contract then you will be required to notify the COR.

5. The given quantities of LBR and ACM on the Bid form differ drastically from the quantities indicated on the drawings. Will the Bid form be changed to reflect the differences?, please, clarify

ANS: See revised price schedule for estimated quantities.

6. Item 0005 of the Bid from refers to drawing ASB-1-AR. What about drawing ASB-2-AR?, please, clarify.

ANS: See revised price schedule.

7. All of the drawings are in metric measurement. All pipe, ductwork, etc is listed in MM. This includes all the mechanical schedules showing pumps, equipment, etc. This will limit vendor quotes we receive as lots of vendors will not make the effort to do conversions. All of our vendors are asking if new drawings will be out? This is a big job to get taken off, please advise.

ANS: Project is designed in metric and will not be reissued in American units.

8. Is the bid date firm or is there the possibility that a bid extension might be forth coming?

ANS: See amendment #3 instructions for revised proposal due date.

9. Our computer estimating program does not have the capability to take off blueprints in METRIC measurements. Being these drawings are issued in METRIC measurements, will new drawings being issued showing scale, sizes, etc. in American measurements and perhaps how to?

ANS: See answer to question 7.

10. If not will the architect/engineer issue an addendum referencing what metric sizes equate to American measurements for pipe, valves & fittings?

ANS: Conversion tables are provided on the drawings.

11. Will pipe, valves & fittings for the plumbing/mechanical systems be required to be supplied in METRIC sizes?

ANS: The project is design in metric. See plans and specifications for equipment sizes.

12. Will submittals be required to be submitted showing metric units of measurements?

ANS: All shop drawing submittals will require metric conversion to indicate compliance with construction documents.

13. Is there a preferred control contractor (Siemens, Johnson, Honeywell, etc.) who is currently providing temperature control services to the site? If so pleas provide a list of contacts complete with phone numbers.

ANS: No, see DDC specification for equipment requirements.

14. Are the drawings separated into 2 different packages, with the ones with the suffix “AR” having to do with the work in the existing building?

ANS: Yes, the AR drawings (VOL 4) pertain to the existing building renovation work.

15. In the request for bid, is there any requirement to breakout the price for work associated with work in the existing building

ANS: See the specifications for detailed information regarding price breakdown.

16. At the pre con meeting, it was mentioned that any questions asked at the meeting would be answered the very next day via amendment. Have they been addressed as of yet? In not when can expect the next amendment? This is a very big project and a substantial amount of time is needed to provide a competitive estimate.

ANS: All outstanding questions by Contractors are being addressed and issues via amendment.

17. Drawing MD101-AR is showing removal of existing steam radiator (left side of print) Is it just (1) radiator? If not please identify quantity to be removed.

ANS: Question shall be answered in a following amendment.

18. Please consider extending the bid date to allow us to process information issued by the answering of questions regarding RFI's.

ANS: See amendment #3 instructions for revised proposal due date.

19. Will all RFI questions and their answers be incorporated into an addendum, so all bidders can see all questions asked and answered?

ANS: All questions are being addressed.

20. Drawing M101A shows a unit heater designated as UH-1 in vestibule(s) 101 & 103. Please confirm this is the proper heater for this location.

ANS: Question shall be answered in a following amendment.

21. Please provide schedule for AC 4-1 & AC 5-1 as shown on drawing M-107, And provide the location for AC-3 as shown in the equipment schedule. I can not find it on the drawings.

ANS: Schedule is on dwg M903. AC-3 located in Main Telecom Room. See M704 and M100.

22. Please provide schedule/model/size requirements for CP-1 Condensate Pump as shown on drawing M-301 & M-510.

ANS: Schedule is on dwg M904.

23. Please provide size/model/requirements for tank TK-2 as shown on drawing M-514.

ANS: TK-2 is the day tank. See 985-liter Day Tank on M106.

24. Drawing M-603 shows (2) sump pumps SP-1 & SP-2. Please provide schedule/sizing/model for these pumps.

ANS: Question shall be answered in a following amendment.

25. There is a refrigerant leak detection panel shown on drawing M-302. Please provide a schedule/requirements/model for this equipment.

ANS: Refrigerant leak detection is detailed in spec section 15620 Liquid Chillers, paragraph 2.7.1 "Refrigerant Liquid Detector."

26. Drawing M-106 shows a 985 L day tank for emergency generator. I would assume that this tank would be supplied with the generator package and should be included with the electrical package not mechanical?

ANS: The tank is required to be supplied as part of this project.

27. Please advise where we can find "Appendix A" containing the Door Hardware Schedule which is referenced at the end of spec section 08710.

ANS: Appendix A for 08710 is attached to this amendment.

28. We could not find a CLIN in the bid form for bid option numbers 4 and 12. Are we to provide a price for these items?

ANS: The option specification has been revised. HD shelving is not part of this solicitation.

29. Are we to provide a price for CLINS's 0002,0009,0010,0012,0013, and 00014? These CLINs appear to e the sum of their corresponding –AA,-AB, etc. CLIN's however, they do not contain a unit or a line (a space) to enter a price. In addition, there already exists a SUBTotal CLINS space for each of their totals.

ANS: CLIN's 0002, 0009, 0010, 0012, 0013 and 0014 are only general descriptions of work for items to be priced below. Do not provide a price for these CLIN items.

30. We kindly request a one week extension of the bid date.

ANS: See amendment instructions for proposal due date.

31. Please provide the geotechnical boring logs – drawing G-001 references as an appendix to spec section 02222 but it is not on the disk provided.

ANS: Boring logs provided as attachment to this amendment.

32. Where are the location of the soil and rock anchors for specification section 0290? It states that it will be paid via unit price but there is not a unit price established. Please clarify?

ANS: Question shall be answered in a following amendment.

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001			Lump Sum		

FFP
All work associated with construction of the New Library/Learning Ctr in accordance with drawing VOLs 1-3 and the specifications, excluding CLINs 0002 -0040)

PURCHASE REQUEST NUMBER: W16ROE-3255-0713

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0002					

Rock Excavation
FFP

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	ESTIMATED QUANTITY	UNIT	UNIT PRICE	AMOUNT
0002AA		9,318	Cubic Meter	_____	

Mass Rock
FFP

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	ESTIMATED QUANTITY	UNIT	UNIT PRICE	AMOUNT
0002AB	Additional Mass Rock FFP	932	Cubic Meter	_____	

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	ESTIMATED QUANTITY	UNIT	UNIT PRICE	AMOUNT
0002AC	Trench Rock FFP	2,357	Cubic Meter	_____	

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	ESTIMATED QUANTITY	UNIT	UNIT PRICE	AMOUNT
0002AD	Additional Trench Rock FFP	236	Cubic Meter	_____	

NET AMT

FOB: Destination

SUBTotal CLINs (0002AA – 0002AD) $_____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0003			Lump Sum		

FFP
All work associated with construction of the Archives in accordance with VOL 4 and the specifications.

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	ESTIMATED QUANTITY	UNIT	UNIT PRICE	AMOUNT
0004		103	Square Meter	_____	

FFP
Lead Base Paint removal in Archive in accordance with plans LBP-1-AR and LBP-2-AR.

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	ESTIMATED QUANTITY	UNIT	UNIT PRICE	AMOUNT
0005					

FFP
Asbestos Abatement

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0005AA		956	Square Meter	_____	

FFP
Asbestos Abatement of floor tile and mastic in the Archive Area in accordance with ASB-1-AR and ASB-2-AR of the plans.

NET AMT

FOB: Destination

SUBCLIN 0005AB is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0005AB		213	Linear Meter	_____	

FFP
Asbestos Abatement of window caulking in the Archive Area in accordance with ASB-1-AR and ASB-2-AR of the plans

NET AMT

FOB: Destination

SUBTotal CLINs (0005AA-0005AB) $_____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0006 OPTION			Lump Sum		

FFP
All work associated with the addition of the Limestone window surrounds as shown on drawing A845 labeled Option 1, excluding arched windows. May be awarded within 240 calendar days from NTP.

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0007 OPTION			Lump Sum		

FFP
All work associated with the installation of a complete FM200 fire supression system as shown on F100-AR thru F302-AR labeled Option 10. May be awarded within 240 calendar days from NTP.

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0008 OPTION			Lump Sum		

FFP
All work associated with the construction of additional landscaping and irrigation as shown on L4.03, L5.01 and I101A and I102 labeled Option 18. May be awarded within 240 days from NTP.

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0009 OPTION					

FFP
All work associated with the addition of the granite interior walls at the following floors in accordance with drawing A-900 labeled Option 2 and 3. May be awarded within 240 calendar days from NTP.

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0009AA OPTION			Lump Sum		

FFP
First Floor Only.

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0009AB OPTION			Lump Sum		

FFP
Second thru Fifth Floor Only

NET AMT

FOB: Destination

SUBTotal CLINs (0009AA-0009AB) $_____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0010 OPTION					

FFP
Construction of Circulation and Reference Desks in the New Library/Learning Center.

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0010AA OPTION			Lump Sum		

FFP
All work associated with construction of the circulation desk and reference desk including canopies as shown on A402, A702 and A870 thru A872 labeled Option 5. (May be awarded within 540 calendar days from NTP)

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0010AB OPTION			Lump Sum		

FFP
All work associated with the upgrading of the circulation desk and reference desks as shown on X-A102, 870, 871, 872, and 873, labeled RF1 and as specified in Section 05700 Addendum 1. This excludes work associated with CLIN 0010AA. (May be awarded within 540 calendar days from NTP)

NET AMT

FOB: Destination

SUBTotal CLINs (0010AA-0010AB) $_____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0011 OPTION			Lump Sum		

FFP
All work associated with the construction of a reference desk as shown on A701-AR and A821-AR labeled Option 13. (May be awarded within 700 calendar days from NTP)

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0012 OPTION					

FFP
Construction of Display Cases in the First Floor Lobby of the New Library/Learning Center

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0012AA OPTION			Lump Sum		

FFP
All work associated with the construction of display cases (DC01 thru DC03) as shown on A101 labeled Option 7. (May be awarded within 540 calendar days from NTP)

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0012AB OPTION			Lump Sum		

FFP
All work associated with the upgrading of display cases (DC01 thru DC03) as shown on X-A101, 622, and 876, labeled FL4. This excludes work associated with CLIN 0012AA. (May be awarded within 540 calendar days from NTP)

NET AMT

FOB: Destination

SUBTotals CLINs (0012AA-0012AB) $_____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0013 OPTION					

FFP
Construction of Display Cases in the Archives

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0013AA OPTION			Lump Sum		

FFP
All work associated with the construction of display cases (DC-01) as shown on A101-AR labeled Option 15. (May be awarded within 700 calendar days from NTP)

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0013AB OPTION			Lump Sum		

FFP
All work associated with the upgrading of display cases (DC-01) as shown on X-A101-AR, labeled FL4. This excludes work associated with CLIN 0013AA. (May be awarded within 700 calendar days from NTP)

NET AMT

FOB: Destination

SUBTotals CLINs (0013AA-0013AB) $_____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0014 OPTION					

FFP
Construction of Custom Casework in the New Library/Learning Center

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0014AA OPTION			Lump Sum		

FFP
All work associated with installation of custom architectural casework as shown on A102 thru A106, A855, A702 thru A706 and A873 thru A875 labeled Option 9 including rotunda millwork in the central stair, bookcases recessed into granite Rotunda walls on floors 2 thru 5, and display cases in the West Point Room (6th floor). (May be awarded within 540 calendar days from NTP)

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0014AB OPTION			Lump Sum		

FFP
All work associated with the upgrading of display cases (DC04) as shown on X-A106 and 875, labeled WP6. This excludes work associated with CLIN 0014AA. (May be awarded within 540 calendar days from NTP)

NET AMT

FOB: Destination

SUBTotals CLINs (0014AA-0014AB) $_____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0015 OPTION			Lump Sum		

FFP
All work associated with the supply and installation of black out shades (all types) as shown on A401 thru A406 labeled Option 8. (May be awarded within 540 calendar days from NTP)

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0016 OPTION			Lump Sum		

FFP
All work associated with the supply and installation of black out shades (all types) as shown on A401-AR labeled Option 11. (May be awarded within 700 calendar days from NTP)

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0017 OPTION			Lump Sum		

FFP
All work associated with the installation of electrically operated projection screens (all types) as shown on A401 thru A406 labeled Option 6. (May be awarded within 540 calendar days from NTP)

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0018 OPTION			Lump Sum		

FFP
All work associated with the installation of electrically operated projection screens (all types) as shown on A401-AR labeled Option 14. (May be awarded within 700 calendar days from NTP)

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0019 OPTION			Lump Sum		

FFP
All work associated with upgrading the carpet types as specified in Section 09680 Addendum 1 and shown on X-A720 thru 725 and X-A721-AR, labeled CR1. (May be awarded within 540 calendar days from NTP)

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0020 OPTION			Lump Sum		

FFP
All work associated with upgrading the carpet types as specified in Section 09680 Addendum 2 and shown on X-A722 thru 725, labeled RR1. (May be awarded within 540 calendar days from NTP)

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0021 OPTION			Lump Sum		

FFP
All work associated with upgrading the floor finish to a thin-set epoxy terrazzo finish in lieu of a stained concrete finish in the first floor lobby as shown on X-A620, 720, 721, 856, 857, and X-A721-AR, labeled FL2 and as specified in Sections 09445 and 09915 Addendum 4. (May be awarded within 240 calendar days from NTP)

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0022 OPTION			Lump Sum		

FFP
All work associated with upgrading the floor finish to a thin-set epoxy terrazzo finish in lieu of a stained concrete finish of the center stair as shown on X-A720 thru 726, and 857, labeled MS1 and as specified in Sections 09445 and 09915 Addendum 5. (May be awarded within 240 calendar days from NTP)

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0023 OPTION			Lump Sum		

FFP
All work associated with upgrading the floor finish to a thin-set epoxy terrazzo finish in lieu of a stained concrete finish in the circular area adjacent to the central stair and in the corridor of the sixth floor lobby as shown on X-A623, 726, and 857, labeled SL2 and as specified in Sections 09445 and 09915 Addendum 6. (May be awarded within 240 calendar days from NTP)

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0024 OPTION			Lump Sum		

FFP
All work associated with upgrading the floor finish to a glue-down Brazilian cherry plank floor in lieu of a stained concrete finish of in the area of the sixth floor lobby, outside of a circular area adjacent to the central stair, as shown on X-A623 and 726, labeled SL4 and as specified in Section 09645. (May be awarded within 240 calendar days from NTP)

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0025 OPTION			Lump Sum		

FFP
All work associated with upgrading the floor finish to a glue-down Brazilian cherry plank floor in lieu of carpeting in the West Point Room as shown on X-A623 and 726, labeled WP5 and as specified in Section 09645. (May be awarded within 240 calendar days from NTP)

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0026 OPTION			Lump Sum		

FFP
All work associated with upgrading the wall finish to a polished plaster finish in lieu of a standard paint finish in the first floor lobby as shown on X-A101 and X-A622, labeled FL1 and as specified in Sections 09215 and 09915 Addendum 2. (May be awarded within 540 calendar days from NTP)

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0027 OPTION			Lump Sum		

FFP
All work associated with upgrading the ceiling finish to a polished plaster finish in lieu of a standard paint finish in first floor lobby and corridors as shown on X-A401, 402, and 621, labeled FL3 and as specified in Sections 09215 and 09915 Addendum 2. (May be awarded within 540 calendar days from NTP)

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0028 OPTION			Lump Sum		

FFP
All work associated with upgrading the ceiling finish to a polished plaster finish in lieu of a standard paint finish in sixth floor lobby as shown on X-A406 and 624, labeled SL5 and as specified in Sections 09215 and 09915 Addendum 2. (May be awarded within 540 calendar days from NTP)

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0029 OPTION			Lump Sum		

FFP
All work associated with upgrading the ceiling finish to a decorative stenciled paint pattern on a plaster finish lieu of a standard paint finish in West Point Room as shown on X-A406, 624, 626, and 858, labeled WP1 and as specified in Section 09915 Addendum 3. (May be awarded within 540 calendar days from NTP)

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0030 OPTION			Lump Sum		

FFP
All work associated with upgrading the south wall finish of the sixth floor lobby to wood veneer paneling and the addition of a picture rail as shown on X-A106, 624, and 625, labeled SL1 and as specified in Section 06410 Addendums 1&2. (May be awarded within 540 calendar days from NTP)

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0031 OPTION			Lump Sum		

FFP
All work associated with upgrading the wall finish of the West Point Room to wood veneer paneling as shown on X-A106 and 625, labeled WP4 and as specified in Section 06410 Addendum 1. (May be awarded within 540 calendar days from NTP)

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0032 OPTION			Lump Sum		

FFP
All work associated with upgrading the acoustical wall panel fabric as specified in Section 09915 Addendum 1 in the areas as shown on X-A100,101 and 103 thru 105, labeled CR3. (May be awarded within 540 calendar days from NTP)

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0033 OPTION			Lump Sum		

FFP
All work associated with the upgrading of light fixtures in the rotundas, reading rooms, and archives renovation area in accordance with plans X-A002, 402 thru 405, and X-A401-AR, labeled RR2and as specified in Section 16510 Appendix A, Addendum1 (May be awarded within 540 calendar days from NTP)

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0034 OPTION			Lump Sum		

FFP
All work associated with the upgrading of light fixtures in the West Point Room in accordance with plan X-A406, labeled WP2 and as specified in Section 16510 Appendix A, Addendum 2. (May be awarded within 540 calendar days from NTP)

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0035 OPTION			Lump Sum		

FFP
All work associated with the construction of a level surface of concrete pavers on pedestals, the upgrading the inner wythe of the parapets outside the West Point Room from CMU to granite, and the upgrading of the railings on the sixth floor roof as shown on X-A106, 406,627, and 849, labeled WT1 and as specified in Sections 02775 Addendum 1 and 16510 Appendix A, Addendum 3. (May be awarded within 540 calendar days from NTP)

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0036 OPTION			Lump Sum		

FFP
All work associated with the construction of granite pavers at the south building entrance in lieu of concrete pavers as shown on L4.01 details 2 and 6A labeled Option 17. (May be awarded within 540 calendar days from NTP)

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0037 OPTION			Lump Sum		

FFP
All work associated with the construction of granite pavers at the east and west entrances in lieu of concrete pavers as show on X-A002 thru 003, labeled ET1. (May be awarded within 540 calendar days from NTP)

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0038 OPTION			Lump Sum		

FFP
All work associated with the construction of stone medallions at the south entry as shown on DRAWINGS X-A101, 201, 209, and 847, labeled ET4. (May be awarded within 240 calendar days from NTP)

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0039 OPTION			Lump Sum		

FFP
All work associated with the construction of stone medallions at the east and west entries as shown on DRAWINGS X-A102, 202, 203, 209, 402, and 848, labeled ET4. (May be awarded within 240 calendar days from NTP)

NET AMT

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0040 OPTION			Lump Sum		

FFP
All work associated with the construction of exterior iron fence as shown on L4.02 detail 1 and 2 labeled Option 16. (May be awarded within 540 calendar days from NTP)

NET AMT

FOB: Destination

TOTAL Base Bid (CLINs 0001 – 0005) $_____

TOTAL All Optional Items (CLINs 0006 – 0040) $_____

TOTAL Base Bid & Optional Items (CLINs 0001 –0040) $_____

INSPECTION AND ACCEPTANCE

The following Acceptance/Inspection Schedule was added for SUBCLIN 0005AA:

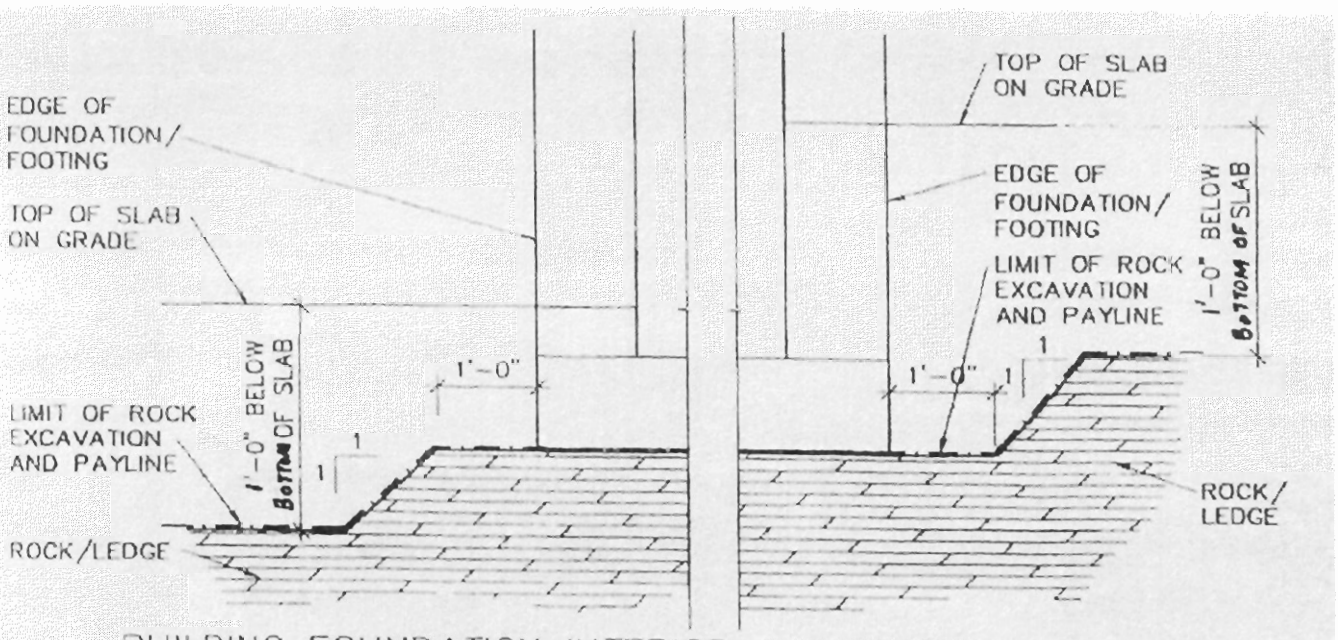
INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY

N/A	N/A	N/A	Government

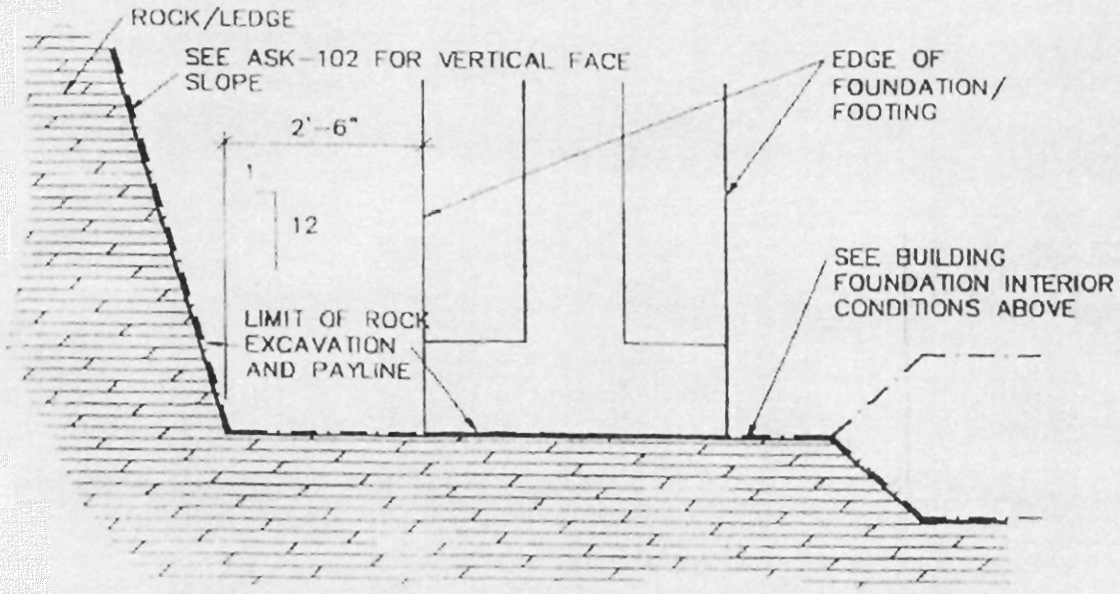
The following Acceptance/Inspection Schedule was added for SUBCLIN 0005AB:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	Government

(End of Summary of Changes)

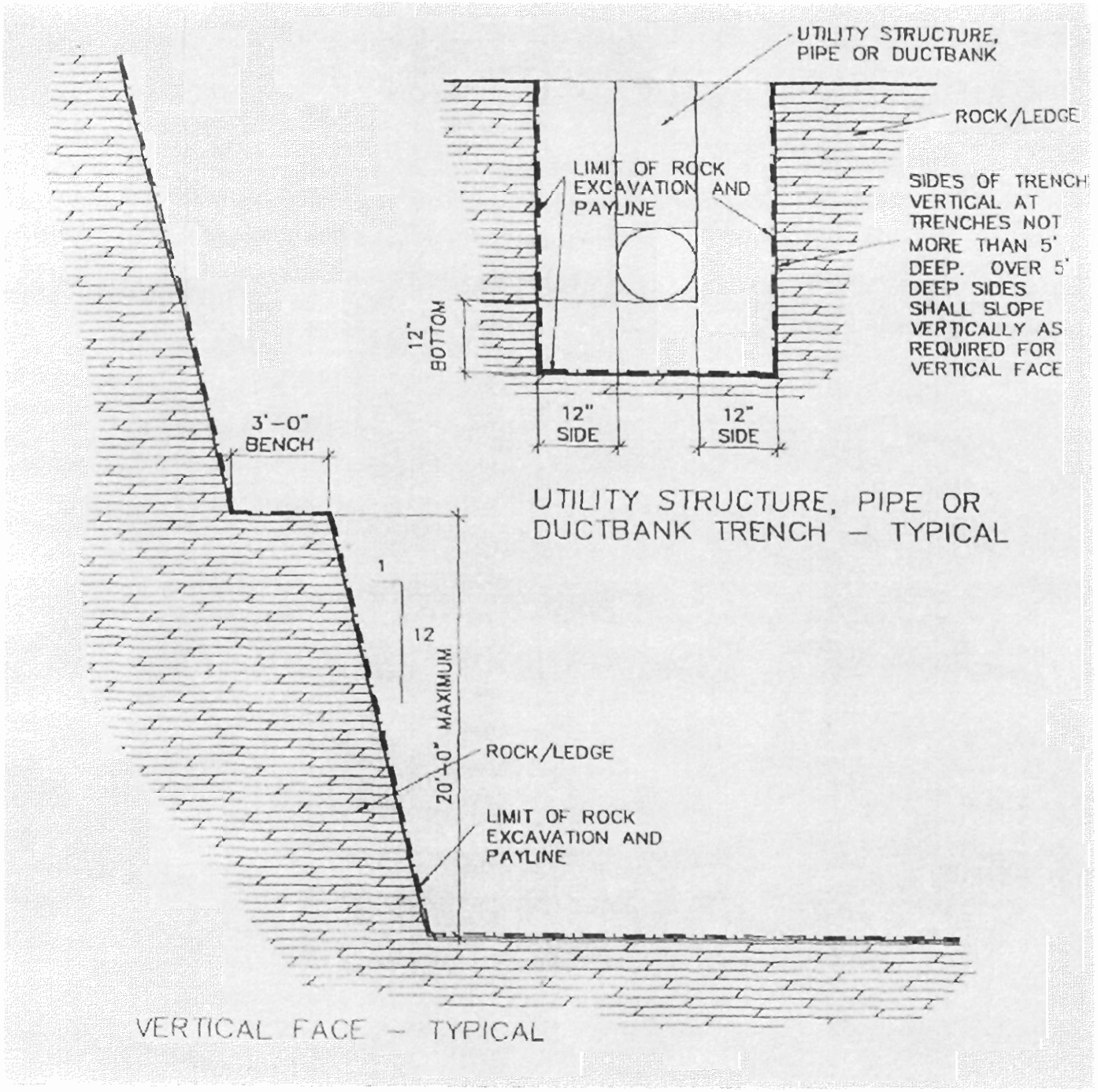


BUILDING FOUNDATION INTERIOR CONDITIONS – TYPICAL



BUILDING FOUNDATION EXTERIOR CONDITION – TYPICAL

STV Incorporated 225 Park Avenue South New York, NY 10003 TEL: 1-(212)-777-4400 FAX: 1-(212)-473-2780	ROCK EXCAVATION PAYMENT LINES - TYPICAL USMA: THOMAS JEFFERSON HALL WEST POINT NEW YORK			
	PROJ. NO.: 11145	SCALE: NONE	DATE: 10/29/2003	DRAWING: ASK-101



STV Incorporated
225 Park Avenue South
New York, NY 10003
TEL: 1-(212)-777-4400
FAX: 1-(212)-473-2780

ROCK EXCAVATION
PAYMENT LINES - TYPICAL

USMA: THOMAS JEFFERSON HALL
WEST POINT **NEW YORK**

PROJ. NO.: 11145	SCALE: NONE	DATE: 10/29/2003	DRAWING: ASK-102

SECTION 02222 – ROCK EXCAVATION

APPENDIX A: SUBSURFACE DATA

CONTENTS:

A.1 *BORING LOGS FROM LA-SERIES BORINGS (1992)*

A.2 *BORING LOGS FROM M-SERIES BORINGS (2002)*

A.3 *RESULTS OF A-SERIES AND ALT-SERIES AUGER PROBES (2003)*

A.4 *BORING LOGS FROM D-SERIES BORINGS (2003)*

APPENDIX A.1

BORING LOGS

FOR

LA-SERIES BORINGS

(1992)

J-5966

JERSEY BORING & DRILLING CO., INC.	TEST BORING LOG	BORING NO. LA-4
PROJECT Subterranean Library Annex, West Point, NY		SHT.NO. 1 OF 1
CLIENT Sverdrup Corporation		JOB NO. BB-5810
LOCATION Established in the field by the client		ELEVATION 159.5 (Appr.
		PERMIT NO.
		DATE START 2-7-92
		DATE FINISH 2-7-92
		DRILLER BW/BM
		INSPECTOR

GROUND WATER DATE	TIME	DEPTH	CASING		CAS.	SAMP.	CORE	TUBE
		3'	2'	TYPE	HW	SS	NWD4	
				DIA.	4"ID	2"OD	2 1/8	
				WT.	300#	140#		
				FALL	24"	30"		

DEPTH FT.	CASING BLOWS	SAMPLE NO.	BLOWS ON SAMPLE SPOON PER 6"	SAMPLE RECOVERY	IDENTIFICATION	REMARKS
1	55				No soil samples recovered	
2	100					
3						
4		R1			Diamond core drilled from 2' to 7'.	
5					Recovered 49".	
6						
7						
8					Bottom of boring is 7.00'.	
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						

J-5966

JERSEY BORING & DRILLING CO., INC.	TEST BORING LOG	BORING NO. LA-5
PROJECT Subterranean Library Annex, West Point, NY		SHT.NO. 1 OF 1
CLIENT Sverdrup Corporation		JOB NO. BB-5810
LOCATION Established in the field by the client		ELEVATION 159.5 (Appr.
		PERMIT NO.
		DATE START 2-6-92
		DATE FINISH 2-6-92
		DRILLER BW/BM
		INSPECTOR

GROUND WATER					CAS.	SAMP.	CORE	TUBE
DATE	TIME	DEPTH	CASING	TYPE	HW	SS	NWD4	
		3'	5'	DIA.	4"ID	2"OD	2 1/8	
				WT.	300#	140#		
				FALL	24"	30"		

DEPTH FT.	CASING BLOWS	SAMPLE NO.	BLOWS ON SAMPLE SPOON PER 6"	SAMPLE RECOVERY	IDENTIFICATION	REMARKS
1	*				No soil samples recovered.	*Drilled ahead of casing with a Tricone roller bit
7		R1			Diamond core drilled from 5' to 10'. Recovered 60".	
10					Bottom of boring is 10.00'	

J-5966

JERSEY BORING & DRILLING CO., INC.	TEST BORING LOG	BORING NO. LA6
PROJECT Subterranean Library Annex, West Point, NY		SHT. NO. 1 OF 1
CLIENT Sverdrup Corporation		JOB NO. BB-5810
LOCATION Established in the field by the client		ELEVATION 159.0 (Appx)

GROUND WATER									
DATE	TIME	DEPTH	CASING		CAS.	SAMP.	CORE	TUBE	PERMIT NO.
		9'6"	7'	TYPE	HW	SS	NWD4		DATE START 2-6-92
				DIA.	4"ID	2"OD	2 1/8		DATE FINISH 2-8-92
				WT.	300#	140#			DRILLER BW/BM
				FALL	24"	30"			INSPECTOR

DEPTH FT.	CASING BLOWS	SAMPLE NO.	BLOWS ON SAMPLE SPOON PER 6"	SAMPLE RECOVERY	IDENTIFICATION	REMARKS
1	53					
2	60					*Drilled ahead of casing with a Tricone roller bi
3	70					
4	46					
5	21		15 6		Silty sand (SM)- about 75% predominantly fine sand; about 25% silty fines with low plasticity, rapid dilatance, low dry strength and low toughness; max. size medium sand; brown and tan; moist.	
6	32		6 11			
7						
8		R1			Diamond core drilled from 7' to 12' recovered 59".	
9						
10					Bottom of boring is 12'.	Lost water at 10'
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

J-5966

JERSEY BORING & DRILLING CO., INC.	TEST BORING LOG	BORING NO. LA-7
PROJECT Subterranean Library Annex, West Point, NY		SHT. NO. 1 OF 1
CLIENT Sverdrup Corporation		JOB NO. BB-5810
LOCATION Established in the field by the client		ELEVATION 159.0 (App)
GROUND WATER		PERMIT NO.

DATE	TIME	DEPTH	CASING		CAS.	SAMP.	CORE	TUBE
		10	8'6"	TYPE	HW	SS	NWD4	
				DIA.	4"ID	2"OD	2 1/8	
				WT.	300#	140#		
				FALL	24"	30"		

DATE START 2-7-92
DATE FINISH 2-7-92
DRILLER BW/BM
INSPECTOR

DEPTH FT.	CASING BLOWS	SAMPLE NO.	BLOWS ON SAMPLE SPOON PER 6"	SAMPLE RECOVERY	IDENTIFICATION	REMARKS
1	90					*Drilled ahead of casing with a Tricone roller b
2	100					
3	85					
4	70					
5	*	1	20		Well-graded sand with silt and gravel/well-graded gravel with silt and sand (SW-SM/GW-GM) about 50% fine to coarse, hard, subangular to subrounded sand; about 40% fine to coarse, hard, subangular to subrounded gravel with trace flat and elongated particles; about 10% silty fines with low plasticity, rapid dilatance, low dry strength and low toughness; max. size= 38 mm; brown and gray; moist.	
6			38			
7			23			
8			23			
9						
10		R1			Diamond core drilled from 8'6" to 13'6" recovered 60".	
11						
12					Bottom of boring is 13'6".	
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

J-5966

JERSEY BORING & DRILLING CO., INC.	TEST BORING LOG	BORING NO. LA8
PROJECT Subterranean Library Annex, West Point, NY		SHT.NO. 1 OF 2
CLIENT Sverdrup Corporation		JOB NO. BB-5810
LOCATION Established in the field by the client		ELEVATION 158.0 (Appr
GROUND WATER		PERMIT NO.
DATE / TIME / DEPTH / CASING		DATE START 2-3-92
		DATE FINISH 2-4-92
		DRILLER BW/BM
		INSPECTOR

	TYPE	CAS.	SAMP.	CORE	TUBE
	DIA.	4"ID	2"OD	2 1/8	
	WT.	300#	140#		
	FALL	24"	30"		

DEPTH FT.	CASING BLOWS	SAMPLE NO.	BLOWS ON SAMPLE SPOON PER 6"	SAMPLE RECOVERY	IDENTIFICATION	REMARKS
1	*					*Drilled ahead of casing with a Tricone roller bi
2						
3						
4						
5						
6		1	4		Cinder and ash fill- about 90% fine to coarse sand size particles; about 10% fines size particles; max. size= 4 mm; black and gray; moist; "well-graded sand with silt (SW-SM)".	
			3			
7			6			
			4			
8						
9						
10						
11		2	6		Clayey gravel with sand (GC)- about 45% fine to coarse, hard, subangular gravel; about 40% clayey fines with medium plasticity, no dilatance, medium dry strength and medium toughness; about 15% fine to coarse, hard, subangular sand; max. size= 28 mm; brown; wet	
			10			
12			10			
			9			
13						
14						
15						
16		3	10		Silty sand (SM) about 55% fine to coarse, hard, subangular sand; 35% silty fines with low plasticity, rapid dilatance, low dry strength and low toughness; about 10% fine to coarse, hard, subangular gravel; max. size 25 mm; light brown; slight petroleum odor; wet.	
			12			
17			13			
			12			
18						
19						
20						
21		4	19		Well-graded gravel with silt and sand (GW-GM) about 75% fine to coarse, hard, subangular to subrounded gravel; about 15% fine to coarse, hard, subangular to subrounded sand; about 10% silty fines with low plasticity, rapid dilatance, low dry strength and low toughness	
			20			
22			11			
			10			
23						

J-5966

JERSEY BORING & DRILLING CO., INC.	TEST BORING LOG	BORING NO. LA8
PROJECT Subterranean Library Annex, Wet Point, NY		SHT.NO. 2 OF 2
CLIENT Sverdrup Corporation		PROJ. NO. BB-581C

DEPTH FT.	CASING BLOWS	SAMPLE NO.	BLOWS ON SAMPLE SPOON PER 6"	SAMPLE RECOVERY	IDENTIFICATION	REMARKS
					max. size 38 mm; brown; petroleum odor; wet.	
24	*					
25						
26		5	12 7		48 SM 25 Well-graded gravel with sand (~~GW~~)- about ~~60%~~ fine to coarse, hard, subangular gravel with trace flat particles; about ~~35%~~ fine to	
27			7 8			
28					coarse, hard, subangular sand; trace fines; max. size 35 mm; grey; petroleum odor; wet	
29					with layer silty sand/sandy silt (SM/ML)- about 55% fine sand; about 45% silty fines	
30					with low plasticity rapid dilatance, low dry strength and low toughness; max. size= fine sand; grey; petroleum odor; wet.	
31		6	13 10		Well-graded gravel (GW) about 90% fine to coarse, hard, subangular gravel; 10% predom-	
32			14 23		inantly coarse, hard, subangular sand; max. size= 32 mm; grey, wet.	
33						
34						
35		R1			Diamond core drilled from 34' to 39' recovered 93.4%	
36						
37						
38						
39						
40		R2			Diamond core drilled from 39' to 44' recovered 100%	
41						
42						
43						
44						
45					Bottom of boring is 44'.	
46						
47						
48						
49						

J-5966

JERSEY BORING & DRILLING CO., INC.	TEST BORING LOG	BORING NO. LA9
PROJECT Subterranean Library Annex, West Point, NY		SHT.NO. 1 OF 2
CLIENT Sverdrup Corporation		JOB NO. BB-5810
LOCATION Established in the field by the client		ELEVATION 158.5' (App.
GROUND WATER		PERMIT NO.
DATE:	TIME:	DEPTH: 18'	CASING: 33'	DATE START 2-10-92
				DATE FINISH 2-11-92
				DRILLER BW/BM
				INSPECTOR

	CAS.	SAMP.	CORE	TUBE
TYPE	HW	SS	NWD4	
DIA.	4"ID	2"OD	2 1/8	
WT.	300#	140#		
FALL	24"	30"		

DEPTH FT.	CASING BLOWS	SAMPLE NO.	BLOWS ON SAMPLE SPOON PER 6"	SAMPLE RECOVERY	IDENTIFICATION	REMARKS
1	43					*Drilled ahead of casing with a Tricone roller bi
2	15					
3	13					
4	33					
5	22	1	19		Well-graded gravel with silt and sand (GW-GM) about 70% fine to coarse, hard, subangular gravel; about 20% fine to coarse, hard, subangular sand; about 10% silty fines with low plasticity, rapid dilatance, low dry strength and low toughness; max. size= 22 mm; brown; moist.	
6	*		19			
			25			
			31			
10		2	17		Well-graded sand with gravel/well-graded gravel with sand (SW/GW) about 55% fine to coarse, hard, subangular sand; about 40% fine to coarse, hard, subangular gravel; trace fines; max. size= 22 mm; grey brown; moist.	
			25			
			28			
11			39			
15		3	11		Silty sand/sandy silt (SM/ML) about 55% fine sand; about 45% silty fines with low plasticity, rapid dilatance, low dry strength and low toughness; max. size= fine sand; tan; moist.	
16			14			
			15			
17			16			
20		4	9		Well-graded gravel with sand (GW) about 70% fine to coarse, hard, subangular gravel; about 25% fine to coarse, hard, subangular sand; trace fines; max. size= 35 mm; grey brown; wet.	
21			14			
			23			
22			36			
23						

J-5966

JERSEY BORING & DRILLING CO., INC.	TEST BORING LOG	BORING NO. LA9
PROJECT Subterranean Library Annex, Wet Point, NY		SHT.NO. 2 OF 2
CLIENT Sverdrup Corporation		PROJ. NO. BB-5810

DEPTH FT.	CASING BLOWS	SAMPLE NO.	BLOWS ON SAMPLE SPOON PER 6"	SAMPLE RECOVERY	IDENTIFICATION	REMARKS
24						
25						
26		5	26 20		Silty sand with gravel (SM) about 65% fine to coarse, hard, subangular sand; about 20% fine to coarse, hard subrounded gravel; about 15%	
27			15 30		silty fines with low plasticity, rapid dilatance, low dry strength and low toughness;	
28					max. size= 23 mm; brown; moist.	
29						
30						
31		6	22 11		Silty sand with gravel (SM) about 65% fine to coarse, hard, subangular sand; about 20% fine	
32			9 14		to coarse, hard, subrounded gravel; about 15% silty fines with low plasticity, rapid	
33					dilatance, low dry strength and low toughness; max. size= 24 mm; brown; moist.	
34		R1			Diamond core drilled from 33' to 38' recovered 52".	
35						
36						
37						
38						
39						
40						
41					Bottom of boring is 38'.	
42						
43						
44						
45						
46						
47						
48						

J-5966

JERSEY BORING & DRILLING CO., INC.	TEST BORING LOG	BORING NO. LA10
PROJECT Subterranean Library Annex, West Point, NY		SHT.NO. 1 OF
CLIENT Sverdrup Corporation		JOB NO. BB-5810
LOCATION Established in the field by the client		ELEVATION 159.5 (Approx.)

GROUND WATER					CAS.	SAMP.	CORE	TUBE	PERMIT NO.
DATE	TIME	DEPTH	CASING	TYPE	HW	SS	NWD4		DATE START 2-11-92
			31'	DIA.	4"ID	2"OD	2 1/8		DATE FINISH 2-12-92
				WT.	300#	140#			DRILLER BW/BM
				FALL	24"	30"			INSPECTOR

DEPTH FT.	CASING BLOWS	SAMPLE NO.	BLOWS ON SAMPLE SPOON PER 6"	SAMPLE RECOVERY	IDENTIFICATION	REMARKS
1	51					*Drilled ahead of casing with a Tricone roller bit.
2	32					
3	37					
4	26					
5'	*					
		1	17		Silty sand with gravel (SM) about 55% fine to coarse, hard, subangular sand; about 25% silty fines with low plasticity, rapid dilatance, low dry strength and low toughness about 20% fine to coarse, hard, subangular gravel; max. size=19 mm; brown; moist.	
6			26			
			27			
7			21			
8						
9						
10						
		2	21		Silty sand with gravel (SM) about 55% fine to coarse, hard, subangular sand; about 25% silty fines with low plasticity, rapid dilatance low dry strength and low toughness; about 20% fine to coarse, hard, subangular gravel; max. size= 21 mm; brown; moist.	
11			20			
			14			
12			11			
13						
14						
15					SW-SM 30	
		3	17		Well-graded gravel with sand (~~GW~~) about ~~65%~~ fine to coarse, hard, subangular gravel;	
16			28			
			8		about ~~30%~~ fine to coarse, hard, subangular	
17			10		sand; trace fines; max. size= 20 mm; brown	
18					wet. 60	
19						
20					58	
		4	7		Silty sand with gravel (SM) about ~~65%~~ fine to coarse, hard, subangular sand; about ~~20%~~ 17	
21			7			
			8		silty fines with low plasticity, rapid	
22			12		dilatance, low dry strength and low toughness	
					about ~~15%~~ fine to coarse, hard, subangular	
23					gravel; max. size= 30 mm; grey brown; moist.	

J-5966

JERSEY BORING & DRILLING CO., INC.	TEST BORING LOG	BORING NO. LA10
PROJECT Subterranean Library Annex, Wet Point, NY		SHT.NO. 2 OF 2
CLIENT Sverdrup Corporation		PROJ. NO. BB-5810

DEPTH FT.	CASING BLOWS	SAMPLE NO.	BLOWS ON SAMPLE SPOON PER 6"	SAMPLE RECOVERY	IDENTIFICATION	REMARKS
24						
25		5	18		Well-graded sand with silt and gravel (~~SW-SM~~ SM) about ~~70%~~ 50 fine to coarse, hard, subangular to subrounded sand; about ~~20%~~ 30 fine to coarse, hard, subangular to subrounded gravel; about ~~10%~~ 20 silty fines with low plasticity, rapid dilatance, low dry strength and low toughness; max. size= 29 mm; brown and gray; moist with pockets silty sand/sandy silt (SM/ML) about 55% fine sand; about 45% silty fines with low plasticity, rapid dilatance, low dry strength and low toughness; max. size= fine sand; tan; moist.	
26			26			
27			30			
28			32			
29						
30						
31		6	100/0 **			** No recovery
32						Loss water at 3
33						
34		R1			Diamond core drilled from 31' to 36'	
35					Recovered 58".	
36						
37						
38						
39						
40					Bottom of boring is 36'.	
41						
42						
43						
44						
45						
46						
47						
48						

TABLE 1-ROCK CORE DESCRIPTION

Boring No.: LA-4 Core No.: R-1 Depth: 2.0' - 7.0'

Very light grey (N8), light bluish grey (5B 7/1), dark grey (N3) & light brownish grey (5YR 6/1) very hard, very slightly to slightly weathered Granitic & Micaceous GNEISS with very thin flow banding patterns & very closely to closely spaced joints & fractures.

Joint Description:

DISTANCE FROM TOP OF CORE TO CENTER ± OF JOINT (Inches)	APPROX. ANGLE WITH CORE AXIS (Degrees)	JOINT CONDITION	SUM OF LENGTH FOR RQD (Inches)
13.5	n/a	Irregular	13.5
13.5 - 16.5	n/a	Fracture zone, only fragments available for examination	-
16.5	n/a	Irregular	-
18.0	60	Stained, slickensided	-
21.0	90	Stained, irregular	-
29.0	40	Stained, rough	21.5
29.5	50	Stained, rough	-
31.25	70	Stained, irregular	-
36.5	30	Stained, slickensided	26.75
38.25	50	Stained, irregular	-
44.75	50	Stained, rough	33.25
End Of Core @ 49.0			37.5

Core Recovery: 49.0" or 82%
Rock Quality Designation (RQD): 62%
7 Pieces & Fragments; > 12 Joints & Fractures/5 Feet

TABLE 1-ROCK CORE DESCRIPTION

Boring No.: LA-5 Core No.: R-1 Depth: 5.0' - 10.0'

Medium dark grey, very light grey (N8) & brownish grey (5YR 4/1) medium hard to very hard, moderately severely to slightly weathered Granitic MICA SCHIST with very thin flow banding & foliation patterns & very closely to closely spaced joints & fractures.

-grading to-

Light grey (N7), very light grey (N8), light bluish grey (5B 7/1) & dark grey (N3) very hard, very slightly weathered Granitic & Micaceous GNEISS with very thin to thin flow banding patterns & closely spaced joints & fractures below 45.0 ".

Joint Description:

DISTANCE FROM TOP OF CORE TO CENTER ± OF JOINT (Inches)	APPROX. ANGLE WITH CORE AXIS (Degrees)	JOINT CONDITION	SUM OF LENGTH FOR RQD (Inches)
0 - 5	n/a	Fracture zone, only fragments available for examination	-
5.0	n/a	Stained, irregular	-
6.5	40	Slightly stained, irregular	-
9.25	60	Slightly stained, irregular	-
13.0	50	Stained, rough	-
15.0	50	Stained, rough	-
15.75	50	Stained, rough	-
16.75	50	Stained, rough	-
17.5	50	Stained, rough	-
21.5	40	Stained, rough	4.0
23.25	50	Stained, soil filled, <1/16"	-
24.0	50	Stained, soil filled, <1/16"	-
26.25	50	Stained, rough	-
30.75	n/a	Irregular	8.5
32.5	n/a	Irregular	-
34.5	50	Stained, rough	-
32.5-40.25	n/a	Fracture zone, 9 very closely spaced joints	-
40.25	n/a	Stained, irregular	-
45.0	n/a	Stained, irregular	13.25
52.75	n/a	Stained, irregular	21.0
End Of Core	@ 57.75"		26.0

Core Recovery: 57.75" or 96%
Rock Quality Designation (RQD): 43%
13 Pieces & Fragments; > 28 Joints & Fractures/5 Feet

TABLE 1–ROCK CORE DESCRIPTION

Boring No.: LA-6 Core No.: R-1 Depth: 7.0' - 12.0'

Light bluish grey (5B 7/1), very light grey (N8) & dark grey (N3) very hard, very slightly weathered Granitic, Micaceous GNEISS with very thin flow banding patterns & very to moderately closely spaced joints & fractures.

Joint Description:

DISTANCE FROM TOP OF CORE TO CENTER ± OF JOINT (Inches)	APPROX. ANGLE WITH CORE AXIS (Degrees)	JOINT CONDITION	SUM OF LENGTH FOR RQD (Inches)
2.5	60	Stained, rough	-
13.0	30	Stained, rough	10.5
20.5	30	Irregular, partially broken on tight joint	18.0
30.5	50	Stained, rough	28.0
30.5 - 32.5	n/a	Fracture zone, only fragments available for examination	-
32.5	n/a	Irregular	-
33.0	50	Tight	-
45.25	n/a	Stained, irregular	40.25
48.5	40	Stained, rough	-
End Of Core @ 57.75			49.5

Core Recovery: 57.75" or 96%
Rock Quality Designation (RQD): 82%
6 Pieces & Fragments; › 8 Joints & Fractures/5 Feet

TABLE 1-ROCK CORE DESCRIPTION

Boring No.: LA-7 Core No.: R-1 Depth: 8.5' - 13.5'

Very light grey (N8), light bluish grey (5B 7/1), dark grey (N3) & light brownish grey (5YR 6/1) very hard, very slightly to slightly weathered Granitic, Micaceous GNEISS with very thin flow banding patterns & very to moderately closely spaced joints & fractures.

Joint Description:

DISTANCE FROM TOP OF CORE TO CENTER ± OF JOINT (Inches)	APPROX. ANGLE WITH CORE AXIS (Degrees)	JOINT CONDITION	SUM OF LENGTH FOR RQD (Inches)
3.5	50	Stained, rough	-
9.25	50	Stained, rough	5.75
16.0	50	Stained, rough	12.5
18.75	90	Stained, irregular	-
19.5	90	Stained, irregular	-
20.5	30	Stained, irregular	-
34.25	90	Irregular	26.25
36.0	40	Stained, rough	-
36.25	50	Stained, rough	-
39.75	70	Stained, rough	-
40.0	70	Tight	-
41.5	60	Stained, rough	-
44.5	50	Rough	-
48.0	50	Stained, rough	-
48.0 - 51.5	n/a	Fracture zone, only fragments available for examination	-
51.5	30	Stained, rough	-
57.25	60	Stained, irregular	32.0
End Of Core @ 59.0			

Core Recovery: 59" or 98%
Rock Quality Designation (RQD): 53%
12 Pieces & Fragments; > 16 Joints & Fractures/5 Feet

TABLE 1-ROCK CORE DESCRIPTION

Boring No.: LA-8 Core No.: R-1 Depth: 34.0' - 39.0'

Light bluish grey (5B 7/1), very light grey (N8) & dark grey (N3) very hard, very slightly weathered Granitic, Micaceous GNEISS with very thin to thin flow banding patterns & very to moderately closely spaced joints & fractures.

Joint Description:

DISTANCE FROM TOP OF CORE TO CENTER ± OF JOINT (Inches)	APPROX. ANGLE WITH CORE AXIS (Degrees)	JOINT CONDITION	SUM OF LENGTH FOR RQD (Inches)
2.5	90	Irregular, BROKEN BY CORING	2.5
7.5	35	Stained, smooth	7.5
18.25	90	Irregular	18.25
30.5	50	Stained, rough	30.5
30.5	40	Stained, rough	-
35.0	40	Stained, rough	35.0
35.0	40	Stained, irregular	-
38.5	30	Stained, rough	-
53.5	90	Rough, BROKEN BY CORING	50.0
End Of Core @ 55.5			52.0

Core Recovery: 55.5" or 92%
Rock Quality Designation (RQD): 87%
8 Pieces & Fragments; 8 Joints & Fractures/5 Feet

TABLE 1-ROCK CORE DESCRIPTION

Boring No.: LA-8 Core No.: R-2 Depth: 39.0' - 44.0'

Light bluish grey (5B 7/1) & light grey (N7) very hard, fresh Granitic, Micaceous GNEISS with very thin flow banding patterns & very closely to widely spaced joints & fractures.

Joint Description:

DISTANCE FROM TOP OF CORE TO CENTER ± OF JOINT (Inches)	APPROX. ANGLE WITH CORE AXIS (Degrees)	JOINT CONDITION	SUM OF LENGTH FOR RQD (Inches)
2.75	90	Stained, rough	-
2.75	40	Stained, rough	-
23.25	50	Rough, BROKEN BY CORING	20.5
46.75	70	Irregular, BROKEN BY CORING	44.0
End Of Core @ 60.0			57.25

Core Recovery: 60.0" or 100%
Rock Quality Designation (RQD): 95%
3 Pieces & Fragments; 2 Joints & Fractures/5 Feet

TABLE 1-ROCK CORE DESCRIPTION

Boring No.: LA-9 Core No.: R-1 Depth: 33.0' - 38.0'

Light bluish grey (5B 7/1), very light grey (N8) & dark grey (N3) very hard, fresh Micaceous, Granitic GNEISS with very thin to thin flow banding patterns & moderately close to widely spaced joints & fractures.

Joint Description:

DISTANCE FROM TOP OF CORE TO CENTER ± OF JOINT (Inches)	APPROX. ANGLE WITH CORE AXIS (Degrees)	JOINT CONDITION	SUM OF LENGTH FOR RQD (Inches)
36.25 End Of Core @ 52.5	90	Irregular	36.25 52.5

Core Recovery: 52.5" or 88%
Rock Quality Designation (RQD): 88%
2 Pieces; 1 Joint or Fracture/5 Feet

TABLE 1-ROCK CORE DESCRIPTION

Boring No.: LA-10 Core No.: R-1 Depth: 31.0' - 36.0'

Light bluish grey (5B 7/1), very light grey (N8) & dark grey (N3) very hard, fresh Micaceous, Granitic GNEISS with very thin to thin flow banding patterns & closely to moderately closely spaced joints & fractures.

Joint Description:

DISTANCE FROM TOP OF CORE TO CENTER ± OF JOINT (Inches)	APPROX. ANGLE WITH CORE AXIS (Degrees)	JOINT CONDITION	SUM OF LENGTH FOR RQD (Inches)
2.5	70	Irregular	-
5.0	70	Irregular	-
26.5	40	Rough	21.5
End Of Core @ 57.5			52.5

Core Recovery: 57.5" or 96%
Rock Quality Designation (RQD): 88%
4 Pieces; 3 Joints or Fractures/5 Feet

USMA: THOMAS JEFFERSON HALL
WEST POINT, NEW YORK

APPENDIX A.2

BORING LOGS

FOR

M-SERIES BORINGS

(2002)

STV PROJECT NO. 20-11145

STV Inc.

Borehole Log

BOREHOLE NO. M-1
SHEET NO. 1 OF 3
PROJECT NO. 11027

PROJECT: USMA Library and Learning Center

LOCATION: West Point, New York

SURFACE ELEV. +159.8
DATUM: NGVD

Daily Progress	Depth (ft)	Casing Blows	No. & Type	Depth (ft)	Spoon Blows /6"	Sample Description: Classification	Recovery (inches)	Strata	Notes
6/10/2002	0	AUGER ↓	D-1A	0 – 1	3	4" Topsoil, Brown silty SAND, tr gravel (SM)	(8")	FILL	Start boring at 10:30 am
	-1		D-1B	1 – 2	6 3	Dark gray c-f SAND (SP)	(6")		
	-2		D-2A	2 – 3	5 5	Brown sandy SILT, tr gravel (ML)	(10")		
	-3		D-2B	3 – 4	20 15	Gray-brown c-f GRAVEL, some c-f sand, tr silt (GP)	(10")	SAND	
	-4		D-3	4 – 6	17 17				
	-5				24 15	Same as above	(18")		
	-6				32				
	-7		D-4	6 – 8	29 20	Brown c-f SAND and GRAVEL, tr silt (GP-SP)	(17")		
	-8				16 9				
	-9		D-5	8 -9.1	10 14	Brown c-f SAND, tr gravel, silt (SP)	(10")		Spoon refusal at 9.1 ft
	-10		C-1	9.5 - 14.5	50/1"	Gray granitic GNEISS, slightly weathered REC = 60"/60" = 100% RQD = 33"/60" =55%		BEDROCK	
	-11								
	-12								
	-13								
	-14								
	-15		C-2	14.5 – 19.5		Gray granitic GNEISS, slightly weathered REC = 60"/60" = 100% RQD = 40"/60" = 67%			
	-16								
	-17								
	-18								
	-19								
	-20					Bottom of boring at 19.5 ft			End of boring at 4 pm
	-21								
	-22								
	-23								

D=splitspoon (dry) sample P= tube sample using piston head S=tube sample using fixed head NR=no recovery
C=core sample Casing Blows = blows/foot to advance casing in soil and inches per minute to drill in rock.

STV Inc.

Borehole Log

BOREHOLE NO. M-1
SHEET NO. 2 OF 3
PROJECT NO. 11027

PROJECT: USMA Library and Learning Center

LOCATION: West Point, New York

SURFACE ELEV. +159.8
DATUM: NGVD

PAY QUANTITIES

Contractor : Aquifer Drilling and Testing Inc — Driller: Richard Comfort

Surveyor: — Inspector : Niki Nitichaivorrakul

Lineal feet of:	Number of:	Drilling Time:
2.5-inch soil boring	Split spoon (D) samples = 5	Start date 6/10/02 — Rig days 0.75
3.5-inch soil boring = 9.1 ft	Piston tube (P) samples	Finish date 6/10/02 — Standby-hours
NX size rock coring = 10 ft	Fixed tube (S) samples	Observation well installation date

EQUIPMENT

Drill Rig: CME Truck mounted rig

Methods to used to stabilize borehole:

3.5" size casing from 0 to 9 feet
size casing from to feet
mud from to feet
5" OD ID auger from 0 to 9 feet

Casing Hammer 140 lbs. 30" drop

Samplers used:

2" OD split spoon (D) sampler — 2.5" size drill rods
OD piston tube (P) sampler — piston head
OD fixed tube (S) sampler — Shelby drive head
NX size core barrel,

Sampler Hammer lbs. drop

WATER LEVEL READINGS

Borehole Water Level Readings

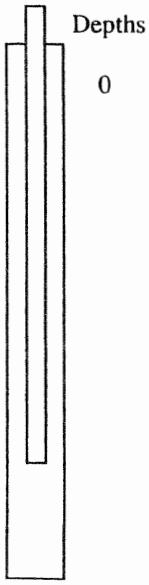
Date	Time	Hole Depth	Casing Depth	Water Depth *	Ambient Conditions (rain etc)

Observation Well Readings

Date	Time	Depth*	Date	Time	Depth *

*Measured from ground surface.

Observation Well Sketch



Screen size type

Rise size type

Filter type

STV Inc.

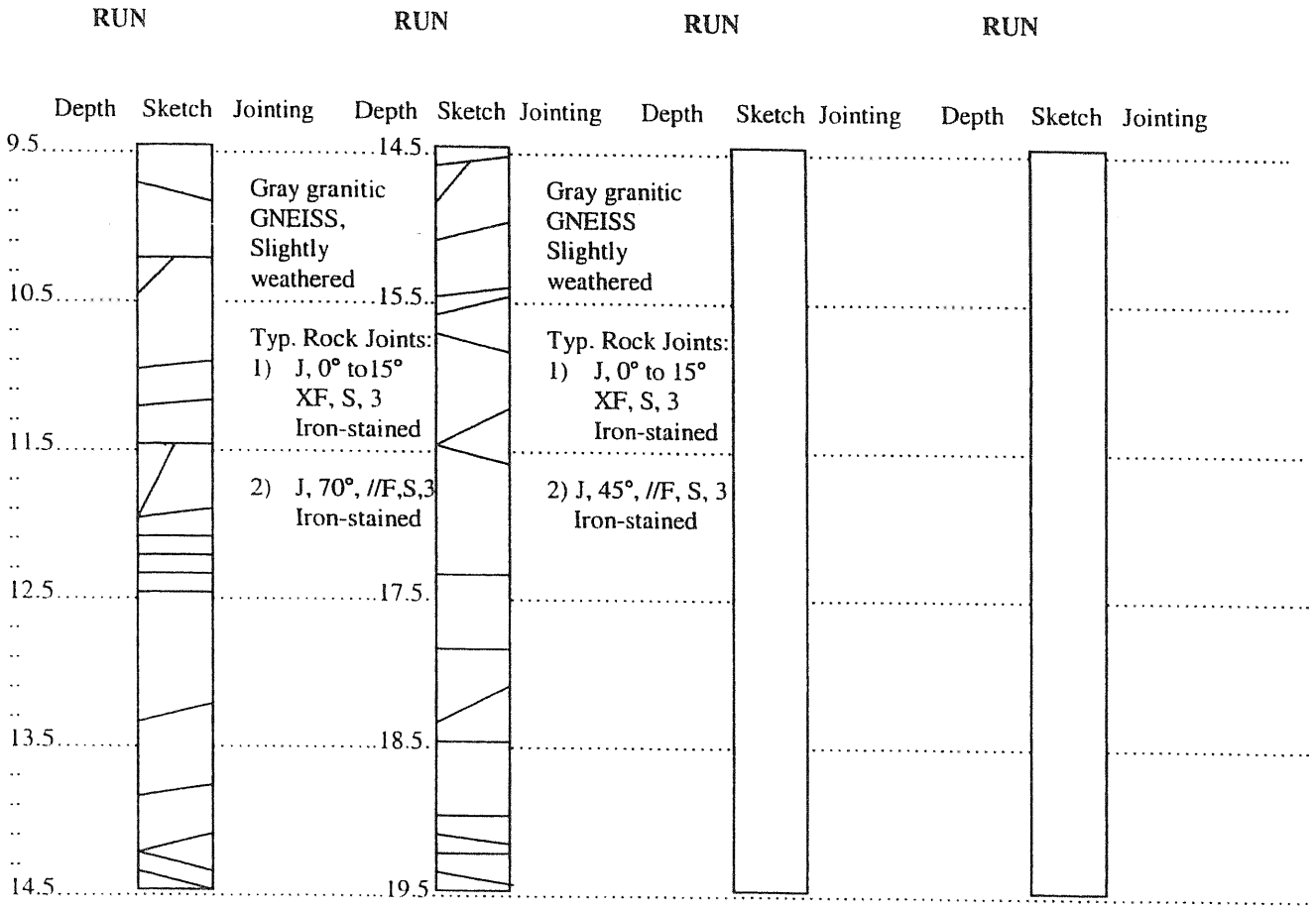
Borehole Log

PROJECT: USMA Library and Learning Center

LOCATION: West Point, New York

BOREHOLE NO. M-1
SHEET NO. 3 OF 3
PROJECT NO. 11027
COORDINATES:
SURFACE .ELEV. +159.8
DATUM: NGVD

ROCK CORE SKETCH



Recovery: (Percent)	**100%**	**100%**
RQD:	**55%**	**67%**

LEGEND

TYPE	ORIENTATION	SURFACE CONDITON	
J - natural joint	// - parallel	C - curved	1 - slick
MB - mechanical break	X - crossing	I - irregular	2 - smooth
< - angle with the horizontal	F - foliation	S - straight	3 - rough
	S - stratification		
	U - unfoliated or unstratified		

STV Inc.

Borehole Log

BOREHOLE NO. M-2
SHEET NO. 1 OF 3
PROJECT NO. 11027

PROJECT: USMA Library and Learning Center

LOCATION: West Point, New York

SURFACE ELEV. +160.2
DATUM: NGVD

Daily Progress	Depth (ft)	Casing Blows	No. & Type	Depth (ft)	Spoon Blows /6"	Sample Description: Classification	Recovery (inches)	Strata	Notes
6/11/2002	0	AUGER ↓	D-1	0 – 2	3 10 11 8	4" Topsoil Brown sandy SILT, tr asphalt, gravel (ML)	(20")	FILL	Start boring at 12:45 pm
	-1								
	-2		D-2	2 – 4	10 7 5 9	Brown c-f SAND and GRAVEL, some silt (GM-SM)	(10")		
	-3								
	-4		D-3	4 -4.8	9 100/3"	Light gray gravelly c-f SAND (SP)	(3")	SAND	Spoon refusal at 4.75 ft
	-5								
	-6		C-1	5.8 – 10.8		Gray granitic GNEISS, slightly weathered REC = 60"/60" = 100% RQD = 48"/60" = 80%		BEDROCK	
	-7								
	-8								
	-9								
	-10								
	-11		C-2	10.8 – 15.8		Gray granitic GNEISS, slightly weathered REC = 60"/60" = 100% RQD = 50"/60" = 83%			
	-12								
	-13								
	-14								
	-15								
	-16					Bottom of boring at 15.8 ft			End of boring at 4 pm
	-17								
	-18								
	-19								
	-20								
	-21								
	-22								
	-23								

D=splitspoon (dry) sample P= tube sample using piston head S=tube sample using fixed head NR=no recovery
C=core sample Casing Blows = blows/foot to advance casing in soil and inches per minute to drill in rock.

STV Inc.

Borehole Log

BOREHOLE NO. M-2
SHEET NO. 2 OF 3
PROJECT NO. 11027

PROJECT: USMA Library and Learning Center

LOCATION: West Point, New York

SURFACE ELEV. +160.2
DATUM: NGVD

PAY QUANTITIES

Contractor : Aquifer Drilling and Testing Inc

Driller: Richard Comfort

Surveyor:

Inspector : Niki Nitichaivorrakul

Lineal feet of:
- 2.5-inch soil boring
- 3.5-inch soil boring = 5.8 ft
- NX size rock coring = 10 ft

Number of:
- Split spoon (D) samples = 3
- Piston tube (P) samples
- Fixed tube (S) samples

Drilling Time:
- Start date 6/11/02 Rig days 0.5
- Finish date 6/11/02 Standby-hours
- Observation well installation date

EQUIPMENT

Drill Rig: CME Truck mounted rig

Methods to used to stabilize borehole:

3.5" size casing from 0 to 5.8 feet

size casing from to feet

mud from to feet

5" OD ID auger from 0 to 4.5 feet

Casing
Hammer 140 lbs. 30" drop

Samplers used:

2" OD split spoon (D) sampler 2.5" size drill rods

OD piston tube (P) sampler piston head

OD fixed tube (S) sampler Shelby drive head

NX size core barrel,

Sampler
Hammer lbs. drop

WATER LEVEL READINGS

Borehole Water Level Readings

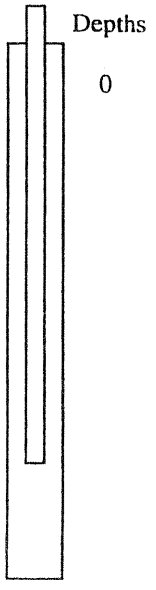
Date	Time	Hole Depth	Casing Depth	Water Depth *	Ambient Conditions (rain etc)

Observation Well Readings

Date	Time	Depth*	Date	Time	Depth *

*Measured from ground surface

Observation Well Sketch



Screen size type

Rise size type

Filter type

STV Inc.

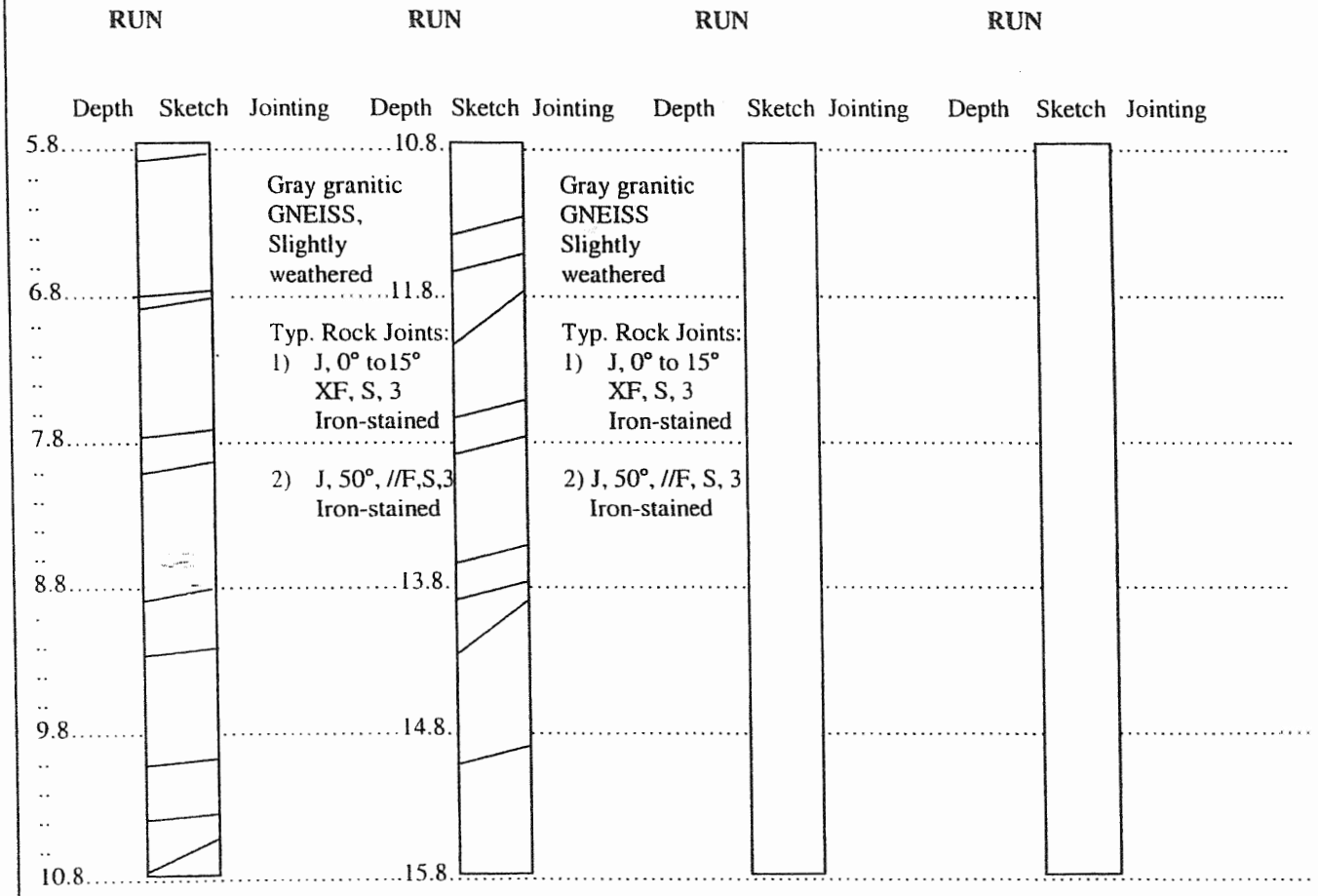
Borehole Log

BOREHOLE NO. M-2
SHEET NO. 3 OF 3
PROJECT NO. 11027
COORDINATES:
SURFACE ELEV. +160.2
DATUM: NGVD

PROJECT: USMA Library and Learning Center

LOCATION: West Point, New York

ROCK CORE SKETCH



Recovery: (Percent)	**100%**	**100%**
RQD:	**80%**	**83%**

LEGEND

TYPE	ORIENTATION	SURFACE CONDITON	
J - natural joint	// - parallel	C - curved	1 - slick
MB - mechanical break	X - crossing	I - irregular	2 - smooth
< - angle with the horizontal	F - foliation	S - straight	3 - rough
	S - stratification		
	U - unfoliated or unstratified		

STV Inc.

Borehole Log

BOREHOLE NO. M-3
SHEET NO. 1 OF 3
PROJECT NO. 11027

PROJECT: USMA Library and Learning Center

LOCATION: West Point, New York

SURFACE ELEV. +159.5
DATUM: NGVD

Daily Progress	Depth (ft)	Casing Blows	No. & Type	Depth (ft)	Spoon Blows /6"	Sample Description: Classification	Recovery (inches)	Strata	Notes
6/10/2002	0	AUGER ↓	D-1	0 – 2	3 6 6 3	4" Topsoil Brown silty m-f SAND, tr cinder, gravel (SM)	(14")	FILL	Start boring at 5 pm
	-2		D-2	2 – 4	3 2 2 1	Brown c-f sandy GRAVEL, some silt, trace brick, concrete (GM)	(5")		
	-4		D-3	4 -4.3	100/3"	Light gray very f SAND and large gravel (SP)	(2")	SAND	Spoon refusal at 4.3 ft End of day at 6 pm
6/11/2002	-6		C-1	6.5 – 11.5		Gray granitic GNEISS, slightly weathered REC = 60"/60" = 100% RQD = 50"/60" = 83%		BEDROCK	Restart at 7 am (6/11/02)
	-12		C-2	11.5 – 16.5		Gray granitic GNEISS, slightly weathered REC = 60"/60" = 100% RQD = 33"/60" = 55%			
	-17					Bottom of boring at 16.5 ft			End of boring at 11 am
	-23								

D=splitspoon (dry) sample P= tube sample using piston head S=tube sample using fixed head NR=no recovery
C=core sample Casing Blows = blows/foot to advance casing in soil and inches per minute to drill in rock.

STV Inc. — Borehole Log

BOREHOLE NO. **M-3**
SHEET NO. 2 OF 3
PROJECT NO. 11027

PROJECT: USMA Library and Learning Center

LOCATION: West Point, New York

SURFACE ELEV. +159.5
DATUM: NGVD

PAY QUANTITIES

Contractor : Aquifer Drilling and Testing Inc — Driller: Richard Comfort

Surveyor: — Inspector : Niki Nitichaivorrakul

Lineal feet of:	Number of:	Drilling Time:
2.5-inch soil boring	Split spoon (D) samples = 3	Start date 6/10/02 — Rig days 0.75
3.5-inch soil boring = 6.5 ft	Piston tube (P) samples	Finish date 6/11/02 — Standby-hours
NX size rock coring = 10 ft	Fixed tube (S) samples	Observation well installation date

EQUIPMENT

Drill Rig: CME Truck mounted rig

Methods to used to stabilize borehole: — Samplers used:

size casing from to feet — 2" OD split spoon (D) sampler — 2.5" size drill rods

size casing from to feet — OD piston tube (P) sampler — piston head

mud from to feet — OD fixed tube (S) sampler — Shelby drive head

5" OD ID auger from 0 to 4.5 feet — NX size core barrel,

Casing
Hammer 140 lbs. 30" drop

Sampler
Hammer lbs. drop

WATER LEVEL READINGS

Borehole Water Level Readings

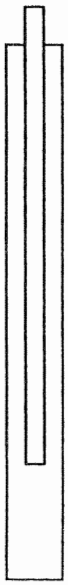
Date	Time	Hole Depth	Casing Depth	Water Depth *	Ambient Conditions (rain etc)

Observation Well Readings

Date	Time	Depth*	Date	Time	Depth *

*Measured from ground surface.

Observation Well Sketch



Screen size type

Rise size type

Filter type

STV Inc.

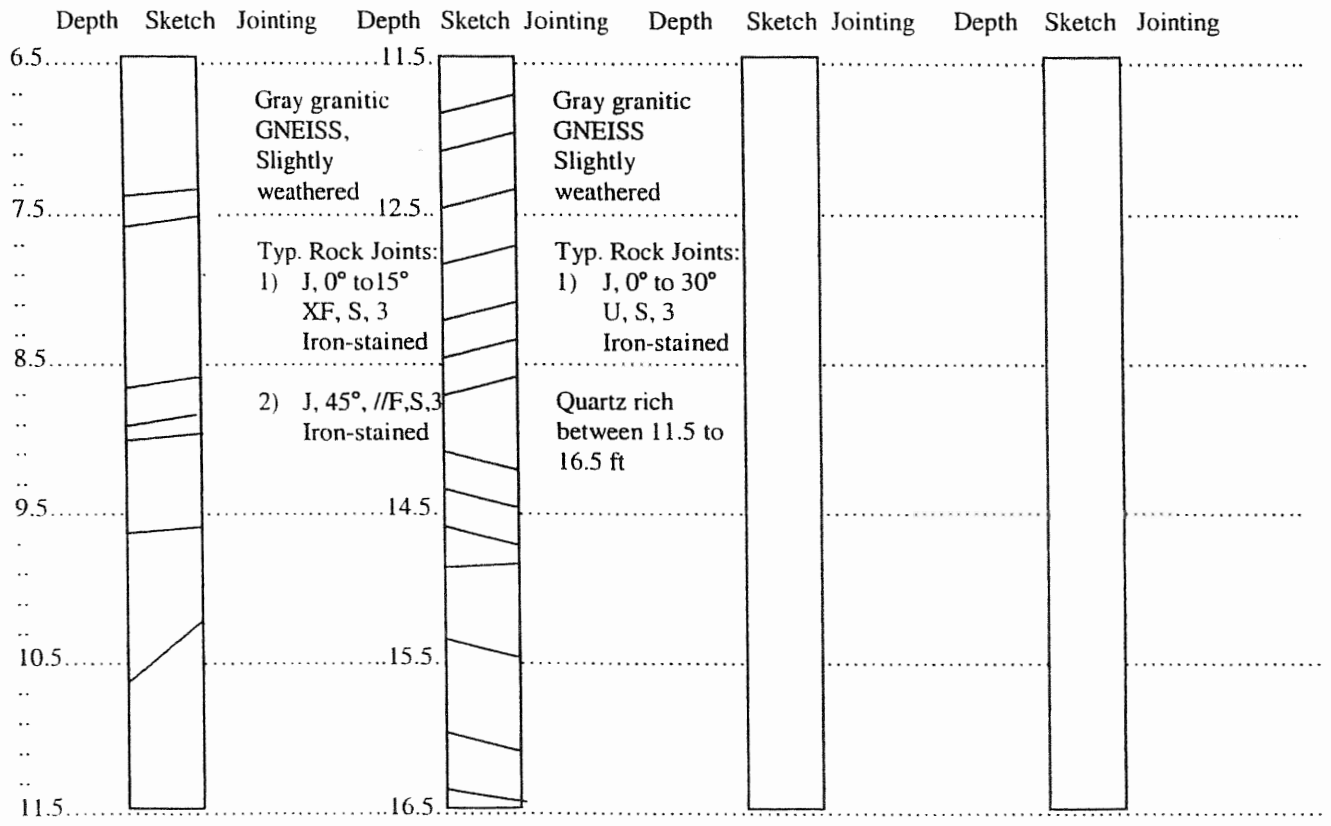
Borehole Log

BOREHOLE NO. M-3
SHEET NO. 3 OF 3
PROJECT NO. 11027
COORDINATES:
SURFACE .ELEV. +159.5
DATUM: NGVD

PROJECT: USMA Library and Learning Center

LOCATION: West Point, New York

ROCK CORE SKETCH



Recovery: (Percent)	**100%**	**100%**
RQD:	**83%**	**55%**

LEGEND

TYPE	ORIENTATION	SURFACE CONDITON	
J - natural joint	// - parallel	C - curved	1 - slick
MB - mechanical break	X - crossing	I - irregular	2 - smooth
< - angle with the horizontal	F - foliation	S - straight	3 - rough
	S - stratification		
	U - unfoliated or unstratified		

STV Inc.

Borehole Log

BOREHOLE NO. M-4
SHEET NO. 1 OF 3
PROJECT NO. 11027

PROJECT: USMA Library and Learning Center

LOCATION: West Point, New York

SURFACE ELEV. +159.8
DATUM: NGVD

Daily Progress	Depth (ft)	Casing Blows	No. & Type	Depth (ft)	Spoon Blows /6"	Sample Description: Classification	Recovery (inches)	Strata	Notes
6/11/2002	0	AUGER ↓	D-1	0 – 2	3 8 24 24	4" Topsoil Gray-brown gravelly c-f SAND, some silt (SM)	(14")	FILL	Start boring at 4:45 pm
	-2					Gray-brown c-f sandy GRAVEL, some silt (GM)	(5")	SAND	
6/12/2002	-3		D-2	2 – 2.8	71 100/3"				Spoon refusal at 2.8 ft End of day at 5:50 pm Restart at 7 am (6/12/02)
	-4								
	-5								
	-6		C-1	5.5 – 9.3		Gray granitic GNEISS, slightly weathered REC = 44"/44" = 100% RQD = 20"/44" = 45%		BEDROCK	
	-7								
	-8								
	-9								
	-10		C-2	9.3 – 14.3		Gray granitic GNEISS, slightly weathered REC = 60"/60" = 100% RQD = 37"/60" = 62%			
	-11								
	-12								
	-13								
	-14								
	-15					Bottom of boring at 14.3 ft			End of boring at 10 am
	-16								
	-17								
	-18								
	-19								
	-20								
	-21								
	-22								
	-23								

D=splitspoon (dry) sample P= tube sample using piston head S=tube sample using fixed head NR=no recovery
C=core sample Casing Blows = blows/foot to advance casing in soil and inches per minute to drill in rock.

STV Inc. — Borehole Log

BOREHOLE NO. M-4
SHEET NO. 2 OF 3
PROJECT NO. 11027

PROJECT: USMA Library and Learning Center

LOCATION: West Point, New York

SURFACE ELEV. +159.8
DATUM: NGVD

PAY QUANTITIES

Contractor : Aquifer Drilling and Testing Inc

Driller: Richard Comfort

Surveyor:

Inspector : Niki Nitichaivorrakul

Lineal feet of:
- 2.5-inch soil boring
- 3.5-inch soil boring = 5.5 ft
- NX size rock coring = 8.8 ft

Number of:
- Split spoon (D) samples = 2
- Piston tube (P) samples
- Fixed tube (S) samples

Drilling Time:
- Start date 6/11/02 Rig days 0.5
- Finish date 6/12/02 Standby-hours
- Observation well installation date

EQUIPMENT

Drill Rig: CME Truck mounted rig

Methods to used to stabilize borehole:

3.5"size casing from 0 to 5.7 feet

size casing from to feet

mud from to feet

5" OD ID auger from 0 to 4.5 feet

Casing Hammer 140 lbs. 30" drop

Samplers used:

2" OD split spoon (D) sampler 2.5" size drill rods

OD piston tube (P) sampler piston head

OD fixed tube (S) sampler Shelby drive head

NX size core barrel,

Sampler Hammer lbs. drop

WATER LEVEL READINGS

Borehole Water Level Readings

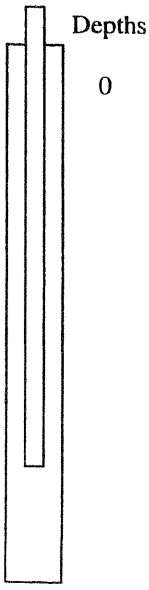
Date	Time	Hole Depth	Casing Depth	Water Depth *	Ambient Conditions (rain etc)

Observation Well Readings

Date	Time	Depth*	Date	Time	Depth *

*Measured from ground surface.

Observation Well Sketch



Screen size type

Rise size type

Filter type

STV Inc.

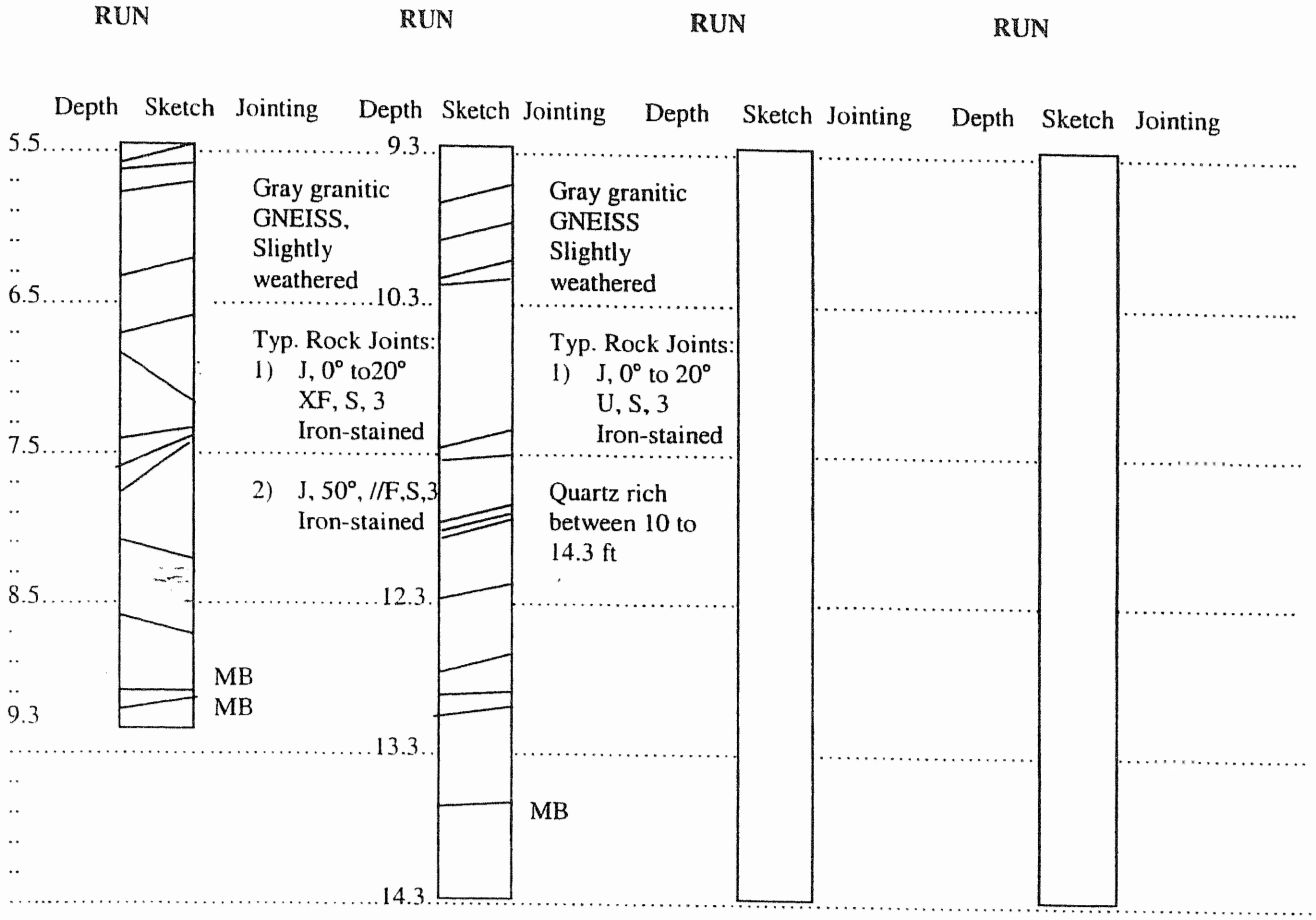
Borehole Log

PROJECT: USMA Library and Learning Center

LOCATION: West Point, New York

BOREHOLE NO. M-4
SHEET NO. 3 OF 3
PROJECT NO. 11027
COORDINATES:
SURFACE ELEV. +159.8
DATUM: NGVD

ROCK CORE SKETCH



Recovery: (Percent)	**100%**	**100%**
RQD:	**45%**	**62%**

LEGEND

TYPE	ORIENTATION	SURFACE CONDITON	
J - natural joint	// - parallel	C - curved	1 - slick
MB - mechanical break	X - crossing	I - irregular	2 - smooth
< - angle with the horizontal	F - foliation	S - straight	3 - rough
	S - stratification		
	U - unfoliated or unstratified		

STV Inc.

Borehole Log

BOREHOLE NO. M-5
SHEET NO. 1 OF 3
PROJECT NO. 11027

PROJECT: USMA Library and Learning Center

LOCATION: West Point, New York

SURFACE ELEV. +158.9
DATUM: NGVD

Daily Progress	Depth (ft)	Casing Blows	No. & Type	Depth (ft)	Spoon Blows /6"	Sample Description: Classification	Recovery (inches)	Strata	Notes
6/12/2002	0	AUGER	D-1	0 – 2	3 4	4" Topsoil Brown SILT, tr f sand, roots (ML)	(24")	FILL	Start boring at 11 am
	-1				4 5				
	-2		D-2	2 – 4	4 4				
	-3								
	-4				7 6	Brown c-f SAND, some gravel, trace silt (SP)	(13")	SAND	
	-5		D-3	4 - 6	3 4	Same as above	(18")		
	-6				5 16				
	-7		D-4	6 – 6.2	50/2"	Same as above with large gravel piece	(2")		Spoon refusal at 6.2 ft
	-8		C-1	7.8 – 12.8		Gray granitic GNEISS, slightly weathered REC = 60"/60" = 100% RQD = 30"/60" = 50%		BEDROCK	
	-9								
	-10								
	-11								
	-12								
	-13		C-2	12.8 – 15.8		Gray granitic GNEISS, slightly weathered REC = 36"/36" = 100% RQD = 14"/36" = 39%			
	-14								
	-15								
	-16		C-3	15.8 – 20.8		Gray granitic GNEISS, slightly weathered REC = 60"/60" = 100% RQD = 20"/60" = 33%			
	-17								
	-18								
	-19								
	-20								
	-21					Bottom of boring at 20.8 ft			End of boring at 2:30 pm
	-22								
	-23								

D=splitspoon (dry) sample P= tube sample using piston head S=tube sample using fixed head NR=no recovery
C=core sample Casing Blows = blows/foot to advance casing in soil and inches per minute to drill in rock.

STV Inc.

Borehole Log

BOREHOLE NO. **M-5**
SHEET NO. 2 OF 3
PROJECT NO. 11027

PROJECT: USMA Library and Learning Center

LOCATION: West Point, New York

SURFACE ELEV. +158.9
DATUM: NGVD

PAY QUANTITIES

Contractor : Aquifer Drilling and Testing Inc — Driller: Richard Comfort

Surveyor: — Inspector : Niki Nitichaivorrakul

Lineal feet of:
2.5-inch soil boring
3.5-inch soil boring = 7.8 ft
NX size rock coring = 13 ft

Number of:
Split spoon (D) samples = 4
Piston tube (P) samples
Fixed tube (S) samples

Drilling Time:
Start date 6/12/02 Rig days 0.5
Finish date 6/12/02 Standby-hours
Observation well installation date

EQUIPMENT

Drill Rig: CME Truck mounted rig

Methods to used to stabilize borehole:

3.5"size casing from 0 to 7.8 feet
size casing from to feet
mud from to feet
5" OD ID auger from 0 to 4 feet

Casing
Hammer 140 lbs. 30" drop

Samplers used:

2" OD split spoon (D) sampler 2.5" size drill rods
OD piston tube (P) sampler piston head
OD fixed tube (S) sampler Shelby drive head
NX size core barrel,

Sampler
Hammer lbs. drop

WATER LEVEL READINGS

Borehole Water Level Readings

Date	Time	Hole Depth	Casing Depth	Water Depth *	Ambient Conditions (rain etc)

Observation Well Readings

Date	Time	Depth*	Date	Time	Depth *

*Measured from ground surface.

Observation Well Sketch

Screen size type

Rise size type

Filter type

STV Inc.

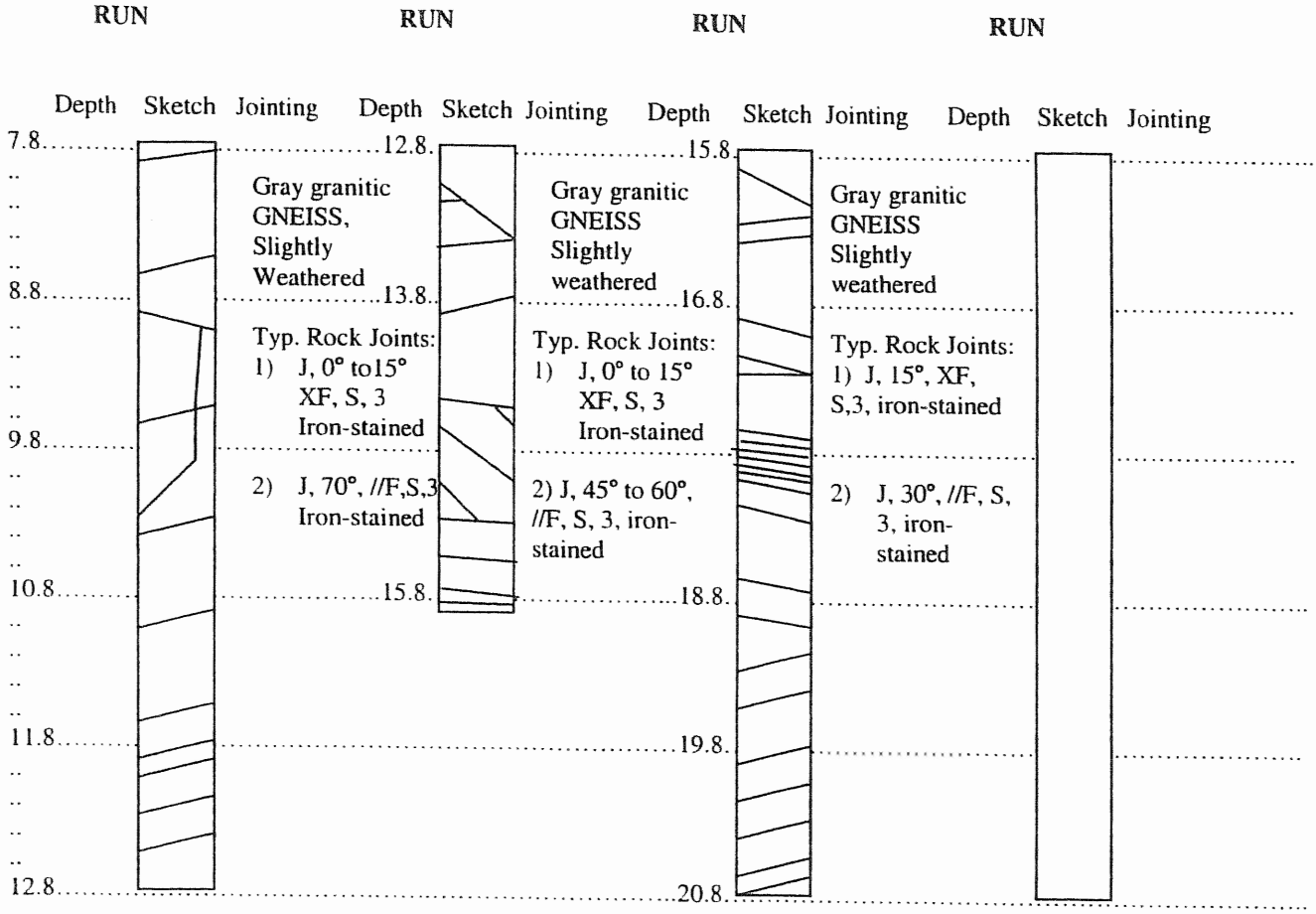
Borehole Log

BOREHOLE NO. M-5
SHEET NO. 3 OF 3
PROJECT NO. 11027
COORDINATES:
SURFACE ELEV. +158.9
DATUM: NGVD

PROJECT: USMA Library and Learning Center

LOCATION: West Point, New York

ROCK CORE SKETCH



	RUN	RUN	RUN
Recovery: (Percent)	100%	100%	100%
RQD:	50%	39%	33%

LEGEND

TYPE	ORIENTATION	SURFACE CONDITON	
J - natural joint	// - parallel	C - curved	1 - slick
MB - mechanical break	X - crossing	I - irregular	2 - smooth
< - angle with the horizontal	F - foliation	S - straight	3 - rough
	S - stratification		
	U - unfoliated or unstratified		

STV Inc.

Borehole Log

BOREHOLE NO. M-6
SHEET NO. 1 OF 3
PROJECT NO. 11027

PROJECT: USMA Library and Learning Center

LOCATION: West Point, New York

SURFACE ELEV. +159.4
DATUM: NGVD

Daily Progress	Depth (ft)	Casing Blows	No. & Type	Depth (ft)	Spoon Blows /6"	Sample Description / Classification	Recovery (inches)	Strata	Notes
6/12/2002	0	DRILL	D-1	0 – 2	3 4 8 4	4" Topsoil Brown SILT, tr sand, gravel, brick, roots	(24")	FILL	Start boring at 3 pm
	-1								
	-2								Spoon refusal at 2.2 ft
	-3		D-2	2 – 2.2	50/2"				
	-4								
	-5		C-1	5 - 10		Gray granitic GNEISS, slightly weathered REC = 60"/60" = 100% RQD = 57"/60" = 95%		BEDROCK	
	-6								
	-7								
	-8								
	-9								
	-10		C-2	10 -15		Gray granitic GNEISS, slightly weathered REC = 60"/60" = 100% RQD = 59"/60" = 98%			
	-11								
	-12								
	-13								
	-14								
	-15					Bottom of boring at 15.0 ft			End of boring at 5:30 pm
	-16								
	-17								
	-18								
	-19								
	-20								
	-21								
	-22								
	-23								

D=splitspoon (dry) sample P= tube sample using piston head S=tube sample using fixed head NR=no recovery
C=core sample Casing Blows = blows/foot to advance casing in soil and inches per minute to drill in rock.

STV Inc.

Borehole Log

BOREHOLE NO. **M-6**
SHEET NO. 2 OF 3
PROJECT NO. 11027

PROJECT: USMA Library and Learning Center

LOCATION: West Point, New York

SURFACE ELEV. +159.4
DATUM: NGVD

PAY QUANTITIES

Contractor : Aquifer Drilling and Testing Inc

Driller: Richard Comfort

Surveyor:

Inspector : Niki Nitichaivorrakul

Lineal feet of:
- 2.5-inch soil boring
- 3.5-inch soil boring = 5 ft
- NX size rock coring = 10 ft

Number of:
- Split spoon (D) samples = 2
- Piston tube (P) samples
- Fixed tube (S) samples

Drilling Time:
- Start date 6/12/02 Rig days 0.33
- Finish date 6/12/02 Standby-hours
- Observation well installation date

EQUIPMENT

Drill Rig: CME Truck mounted rig

Methods to used to stabilize borehole:

3.5"size casing from 0 to 4 feet

size casing from to feet

mud from to feet

OD ID auger from to feet

Casing Hammer 140 lbs. 30" drop

Samplers used:

2" OD split spoon (D) sampler 2.5" size drill rods

OD piston tube (P) sampler piston head

OD fixed tube (S) sampler Shelby drive head

NX size core barrel,

Sampler Hammer lbs. drop

WATER LEVEL READINGS

Borehole Water Level Readings

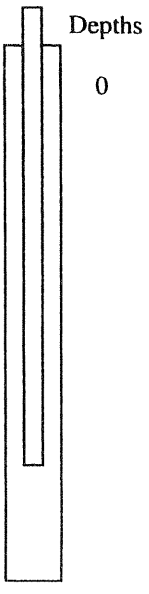
Date	Time	Hole Depth	Casing Depth	Water Depth *	Ambient Conditions (rain etc)

Observation Well Readings

Date	Time	Depth*	Date	Time	Depth *

*Measured from ground surface.

Observation Well Sketch



Screen size type

Rise size type

Filter type

STV Inc.

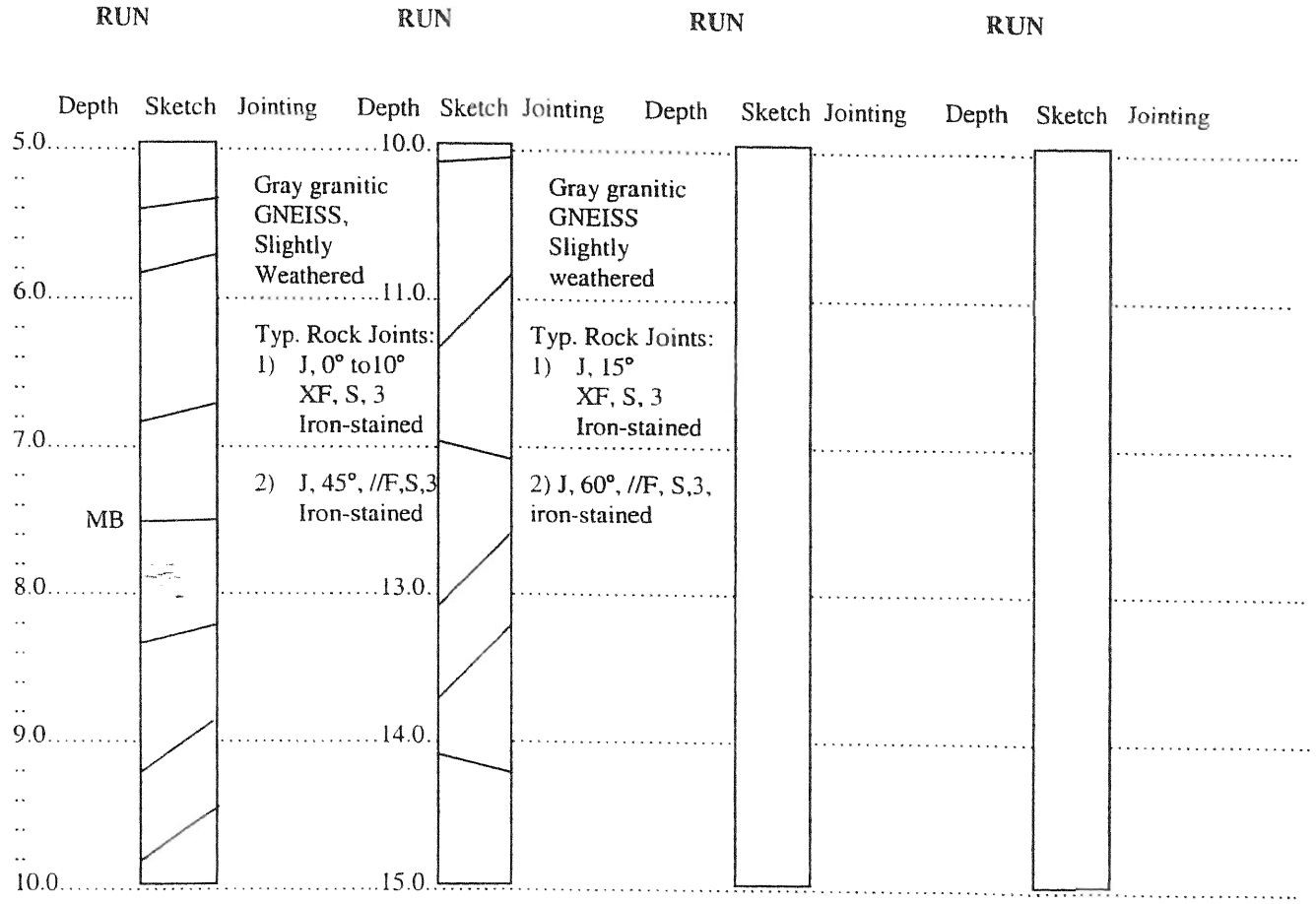
Borehole Log

PROJECT: USMA Library and Learning Center

LOCATION: West Point, New York

BOREHOLE NO. M-6
SHEET NO. 3 OF 3
PROJECT NO. 11027
COORDINATES:
SURFACE .ELEV. +159.4
DATUM: NGVD

ROCK CORE SKETCH



Recovery: (Percent)	**100%**	**100%**
RQD:	**95%**	**98%**

LEGEND

TYPE	ORIENTATION	SURFACE CONDITON	
J - natural joint	// - parallel	C - curved	1 - slick
MB - mechanical break	X - crossing	I - irregular	2 - smooth
< - angle with the horizontal	F - foliation	S - straight	3 - rough
	S - stratification		
	U - unfoliated or unstratified		

STV Inc.

Borehole Log

BOREHOLE NO. M-7
SHEET NO. 1 OF 2
PROJECT NO. 11027

PROJECT: USMA Library and Learning Center

LOCATION: West Point, New York

SURFACE ELEV. +157.9
DATUM: NGVD

Daily Progress	Depth (ft)	Casing Blows	No. & Type	Depth (ft)	Spoon Blows /6"	Sample Description: Classification	Recovery (inches)	Strata	Notes
6/13/2002	-	A	D-1	0 – 2	2 2	4" Topsoil			Start boring at 7 am
	-1	U				Brown gravelly c-f SAND, some silt			
	-	G			4 3	(SM)	(18")		
	-2	E							
	-	R	D-2	2 – 4	3 2	Same as above	(2")	F	
	-3				2 3			I	
	-4								
	-		D-3	4 – 6	3 2	Same as above	(12")	L	
	-5				1 2			L	
	-								
	-6		D-4	6 – 8	2 2	Same as above	(18")		
	-				3 3				
	-7								
	-		D-5	8 - 10	2 2	Same as above	(16")		
	-8				5 6				
	-								
	-9		D-6	10 – 10.4	50/4"	Brown silty SAND, some gravel (SM)	(3")	SAND	Spoon refusal at 10.3 ft
	-								
	-10		C-1	11.4 - 11.8		Gray granitic GNEISS, slightly weathered REC = 5"/5" = 100%		B E D R O C K	Core barrel bit breaks at 11.8 ft
	-		Drill With Roller Bit	11.8 – 15.5					Rollerbit to 15.5 ft to test rock
	-11								
	-								
	-12								
	-								
	-13								
	-								
	-14					Gray granitic GNEISS (probable)			Observe quartz and mica flakes from wash.
	-								
	-15								
	-								
	-16					Bottom of boring at 15.5 ft			End of boring at 2:30 pm
	-								
	-17								
	-								
	-18								
	-								
	-19								
	-								
	-20								
	-								
	-21								
	-								
	-22								
	-								
	-23								
	-								

D=splitspoon (dry) sample P= tube sample using piston head S=tube sample using fixed head NR=no recovery
C=core sample Casing Blows = blows/foot to advance casing in soil and inches per minute to drill in rock.

STV Inc.

Borehole Log

BOREHOLE NO. **M-7**
SHEET NO. 2 OF 2
PROJECT NO. 11027

PROJECT: USMA Library and Learning Center

LOCATION: West Point, New York

SURFACE ELEV. +157.9
DATUM: NGVD

PAY QUANTITIES

Contractor : Aquifer Drilling and Testing Inc — Driller: Richard Comfort

Surveyor: — Inspector : Niki Nitichaivorrakul

Lineal feet of:
- 2.5-inch soil boring
- 3.5-inch soil boring = 11.4 ft
- NX size rock coring = 0.4 ft
- 3.5-inch rock drilling = 3.7 ft

Number of:
- Split spoon (D) samples = 6
- Piston tube (P) samples
- Fixed tube (S) samples

Drilling Time:
- Start date 6/13/02 — Rig days 1.0
- Finish date 6/13/02 — Standby-hours
- Observation well installation date 6/13/02

EQUIPMENT

Drill Rig: CME Truck mounted rig

Methods to used to stabilize borehole:

3.5"size casing from 0 to 11.4 feet

size casing from to feet

mud from to feet

5" OD ID auger from 0 to 10 feet

Casing
Hammer 140 lbs. 30" drop

Samplers used:

2" OD split spoon (D) sampler — 2.5" size drill rods

OD piston tube (P) sampler — piston head

OD fixed tube (S) sampler — Shelby drive head

NX size core barrel,

Sampler
Hammer lbs. drop

WATER LEVEL READINGS

Borehole Water Level Readings

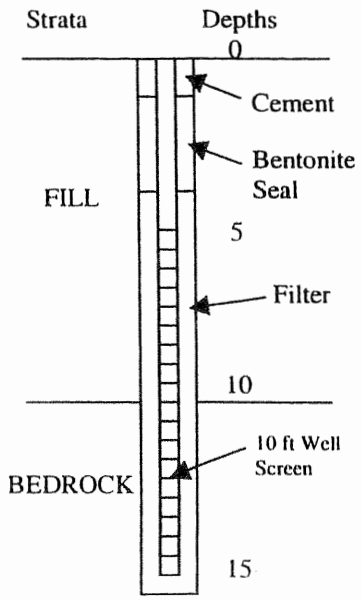
Date	Time	Hole Depth	Casing Depth	Water Depth *	Ambient Conditions (rain etc)

Observation Well Readings

Date	Time	Depth*	Date	Time	Depth *
6/13/02	3:30pm	5.2 ft			
	3:35pm	**			
	5:25pm	7.0 ft			

*Measured from ground surface. **Add water up to top of well

Observation Well Sketch



Screen size 2" type 20

Rise size 2" type PVC

Filter type: Well gravel

APPENDIX A.3

RESULTS OF

A-SERIES AND ALT-SERIES

AUGER PROBES

(2003)

Atlantic Testing Laboratories, Limited
Rock Probe Summary
Proposed Library and Learning Center
West Point, New York
CD2209

Probe Number	+Surface Elevation (meter)	Depth Overburden (meter)	Bedrock Elevation (meter)
A-1	48.89	0.64	48.25
A-2	48.94	0.76	48.18
A-3	48.90	2.29	46.61
A-4	48.86	0.76	48.10
A-5	48.59	7.16	41.43
A-6	48.84	2.59	46.25
A-7	48.92	0.76	48.16
A-8	48.88	1.31	47.57
A-9	48.80	1.98	46.82
A-10	48.45	8.99	39.46
A-11	48.73	2.07	46.66
A-12	48.83	2.56	46.27
A-13	48.82	0.98	47.84
A-14	48.85	2.74	46.11
A-15	48.42	5.24	43.18
A-16	48.79	4.72	44.07
A-17	48.68	0.76	47.92
A-18	48.74	0.91	47.83
A-19	48.76	0.91	47.85
A-20		*Cancelled	
A-21	48.42	12.04	36.38
A-22		**Cancelled	
A-23	48.41	0.98	47.43
A-24	48.56	3.96	44.60
A-25	48.21	0.91	47.30
A-26	48.23	0.61	47.62
A-27	47.53	3.60	43.93
A-28	47.92	8.17	39.75
Alt-1	48.58***	0.76	47.82
Alt-2	48.77***	0.88	47.89
Alt-3	48.79***	2.29	46.50
Alt-5	48.58***	9.30	37.28

*A-20 was renamed D-6.

**Cancelled due to location of underground utilities.

***Elevation provided by STV Incorporated. The elevations were interpreted from a topographic map.

+Note: The "Surface Elevation" is based on field survey by ATL. The elevation may vary slightly from the estimated surface elevations provided by STV.

APPENDIX A.4

BORING LOGS

FOR

D-SERIES BORINGS

(2003)

ATLANTIC TESTING LABORATORIES, Limited

Subsurface Investigation

Report No.: CD2209-3-03

Client: STV Incorporated

Boring Location: See Boring Location Plan

Project: Subsurface Investigation

Proposed Library & Learning Center

West Point, New York

Start Date: 2/26/2003 Finish Date: 2/26/2003

Boring No.: D-1 Sheet 1 of 1

Groundwater Observations

Date	Time	Depth (m)	Casing at
2/26/2003	AM	*4.57	1.77
2/26/2003	PM	DRY	OUT

Casing Hammer
Weight: _____ kg
Fall: _____ mm

Sampler Hammer
Weight: 63.5 kg
Fall: 762 mm

Ground Elev.: 48.59 m

Boring Advance By: 8.3 cm Auger

Borehole caved at 0.9 meters. *Water reading may be affected by water induced during bedrock coring.

DEPTH (meters)	METHOD OF ADVANCE	SAMPLE NO.	DEPTH OF SAMPLE From	DEPTH OF SAMPLE To	SAMPLE TYPE	BLOWS ON SAMPLER PER 152 mm 51-mm O.D. SAMPLER	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL (f - fine, m - medium, c - course; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	RECOVERY (mm)
0	AUGER	1	0.00	0.61	SS	23 29 8 8	0.1	12.7 cm TOPSOIL & ORGANIC MATERIAL Brown c-mf SAND; some mf GRAVEL; little SILT (moist, non-plastic)	483
1	AUGER	2	0.61	1.22	SS	12 30 33 17	0.8	Brown cmf SAND; and mf GRAVEL; little SILT (moist, non-plastic)	229
	AUGER	3	1.22	1.77	SS	21 16 6 100/10 cm	1.8	Similar Soil	254
2	NX CORE		1.77	3.29	NX	RUN 1	3.3	Grey Biotite Schist 152 cm or 100% Recovery 3 Pieces (100 cm) - 34% Chips and Fragments 2 Pieces longer than 10 cm (38 cm) - RQD = 25%	1524
3	NX CORE		3.29	4.82	NX	RUN 2	4.8	Grey Biotite Schist 150 cm or 98% Recovery 16 Pieces (150 cm) - 0% Chips and Fragments 5 Pieces longer than 10 cm (86 cm) - RQD = 57%	1499
4								Boring terminated at 4.8 meters. Notes: 1. Borehole backfilled with on-site soils upon completion.	
5									
6									

ATL-LOG1 METRIC CD2209.GPJ ATL-WELL.GDT 3/5/03

SS Split Spoon Sample
NX Rock Core
SH Undisturbed Sample (Shelby Tube)
Estimated Groundwater

Drillers: Mark Childs; Paul McAloon

Inspector: _____

ATLANTIC TESTING LABORATORIES, Limited

Subsurface Investigation

Report No.: CD2209-3-03

Client: STV Incorporated

Boring Location: See Boring Location Plan

Project: Subsurface Investigation

Proposed Library & Learning Center

West Point, New York

Start Date: 2/25/2003 Finish Date: 2/25/2003

Boring No.: D-2 Sheet 1 of 1

Groundwater Observations

Date	Time	Depth (m)	Casing at
2/25/2003	AM	*3.35	2.13

Casing Hammer
Weight: _____ kg
Fall: _____ mm

Sampler Hammer
Weight: 63.5 kg
Fall: 762 mm

Ground Elev.: 48.13 m

Boring Advance By: 8.3 cm Auger

Borehole caved at 3.5 meters. *Water reading may be affected by water induced during bedrock coring.

DEPTH (meters)	METHOD OF ADVANCE	SAMPLE NO.	DEPTH OF SAMPLE From	DEPTH OF SAMPLE To	SAMPLE TYPE	BLOWS ON SAMPLER PER 152 mm 51-mm O.D. SAMPLER	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL (f - fine, m - medium, c - course; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	RECOVERY (mm)
0	AUGER	1	0.00	0.61	SS	12 5 4 4	0.1	12.7 cm TOPSOIL & ORGANIC MATERIAL	305
								Dark Brown mf+ SAND; some SILT; little mf+ GRAVEL; trace ORGANIC MATERIAL (roots); (moist, non-plastic)	
		2	0.61	1.22	SS	5 4 4 3	0.9	Brown mf SAND; some mf+ GRAVEL; little SILT; trace ORGANIC MATERIAL (roots); (moist, non-plastic)	152
1		3	1.22	1.83	SS	3 4 13 20		Brown mf+ SAND; little mf GRAVEL; little SILT (moist, non-plastic)	203
		4	1.83	2.23	SS	16 25 100/7.6 cm		Brown c-mf SAND; some mf GRAVEL; little SILT (moist, non-plastic)	279
2	NX CORE		2.23	3.75	NX	RUN 1	2.2	Grey Biotite, Quartz Schist 152 cm or 100% Recovery 15 Pieces (142 cm) - 7% Chips and Fragments 7 Pieces longer than 10 cm (102 cm) - RQD = 67%	1524
3							3.7	Boring terminated at 3.7 meters.	
4								Notes: 1. Borehole backfilled with on-site soils upon completion.	
5									
6									

ATL-LOG1 METRIC CD2209.GPJ ATL-WELL.GDT 3/5/03

SS Split Spoon Sample
NX Rock Core
SH Undisturbed Sample (Shelby Tube)
Estimated Groundwater

Drillers: Mark Childs; Paul McAloon

Inspector: _____

ATLANTIC TESTING LABORATORIES, Limited

Subsurface Investigation

Report No.: CD2209-3-03

Client: STV Incorporated

Boring Location: See Boring Location Plan

Project: Subsurface Investigation

Proposed Library & Learning Center

West Point, New York

Start Date: 2/25/2003 Finish Date: 2/25/2003

Boring No.: D-3 Sheet 1 of 1

Groundwater Observations

Date	Time	Depth (m)	Casing at
2/25/2003	AM	*3.05	1.58
2/25/2003	PM	*0.91	OUT

Casing Hammer
Weight: _____ kg
Fall: _____ mm

Sampler Hammer
Weight: 63.5 kg
Fall: 762 mm

Ground Elev.: 48.04 m

Boring Advance By: 8.3 cm Auger

Borehole caved at 1.8 meters. *Water reading may be affected by water induced during bedrock coring.

DEPTH (meters)	METHOD OF ADVANCE	SAMPLE NO.	DEPTH OF SAMPLE From	DEPTH OF SAMPLE To	SAMPLE TYPE	BLOWS ON SAMPLER PER 152 mm 51-mm O.D. SAMPLER	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL (f - fine, m - medium, c - course; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	RECOVERY (mm)
0	AUGER	1	0.00	0.61	SS	17 20 16 12	0.1	12.7 cm TOPSOIL & ORGANIC MATERIAL	432
							0.6	Brown c-mf SAND; some mf GRAVEL; trace SILT (moist, non-plastic)	
1		2	0.61	1.22	SS	9 5 5 9		Brown c-mf SAND; little mf GRAVEL; trace SILT (moist, non-plastic)	254
		3	1.22	1.46	SS	14 100/10 cm		Similar Soil	203
							1.6		
2	NX CORE		1.58	3.11	NX	RUN 1		Grey Biotite Schist 150 cm or 98% Recovery 13 Pieces (137 cm) - 10% Chips and Fragments 6 Pieces longer than 10 cm (89 cm) - RQD = 58%	1499
3							3.1		
								Boring terminated at 3.1 meters.	
4								Notes: 1. Borehole backfilled with on-site soils upon completion.	
5									
6									

ATL-LOG1 METRIC CD2209.GPJ ATL-WELL.GDT 3/5/03

SS Split Spoon Sample
NX Rock Core
SH Undisturbed Sample (Shelby Tube)
Estimated Groundwater

Drillers: Mark Childs; Paul McAloon

Inspector: _____

ATLANTIC TESTING LABORATORIES, Limited

Subsurface Investigation

Report No.: CD2209-3-03

Client: STV Incorporated

Boring Location: See Boring Location Plan

Project: Subsurface Investigation
Proposed Library & Learning Center
West Point, New York

Start Date: 2/27/2003 Finish Date: 2/27/2003

Boring No.: D-4 Sheet 1 of 1

Groundwater Observations

Date	Time	Depth (m)	Casing at
2/27/2003	AM	*2.47	1.07
2/27/2003	AM	DRY	OUT

Casing Hammer
Weight: _____ kg
Fall: _____ mm

Sampler Hammer
Weight: 63.5 kg
Fall: 762 mm

Ground Elev.: 48.83 m

Boring Advance By: 8.3 cm Auger

Borehole caved at 1.2 meters. *Water reading may be affected by water induced during bedrock coring.

DEPTH (meters)	METHOD OF ADVANCE	SAMPLE NO.	DEPTH OF SAMPLE From	DEPTH OF SAMPLE To	SAMPLE TYPE	BLOWS ON SAMPLER PER 152 mm 51-mm O.D. SAMPLER	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL (f - fine, m - medium, c - course; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	RECOVERY (mm)
	AUGER	1	0.00	0.24	SS	107 100/10 cm	0.1	10 cm TOPSOIL & ORGANIC MATERIAL Brown c-mf SAND; little SILT; trace f GRAVEL (moist, non-plastic)	254
		2	0.61	0.94	SS	30 29 100/2.5 cm	1.1	Brown c-mf SAND; and c-mf GRAVEL; little ROCK FRAGMENTS; trace SILT (moist, non-plastic)	330
1	NX CORE		1.07	2.59	NX	RUN 1	1.7	Pinkish Grey Pegmatite	1448
2								Grey Granitic Gneiss 145 cm or 95% Recovery 13 Pieces (145 cm) - 0% Chips and Fragments 7 Pieces longer than 10 cm (107 cm) - RQD = 70%	
							2.6	Boring terminated at 2.6 meters.	
3								Notes: 1. Borehole backfilled with on-site soils upon completion.	
4									
5									
6									

SS Split Spoon Sample
NX Rock Core
SH Undisturbed Sample (Shelby Tube)
Estimated Groundwater

Drillers: Mark Childs; Paul McAloon

Inspector: _____

ATL-LOG1 METRIC CD2209.GPJ ATL-WELL.GDT 3/5/03

ATLANTIC TESTING LABORATORIES, Limited

Subsurface Investigation

Report No.: CD2209-3-03

Client: STV Incorporated

Boring Location: See Boring Location Plan

Project: Subsurface Investigation

Proposed Library & Learning Center

West Point, New York

Start Date: 2/27/2003 Finish Date: 2/27/2003

Boring No.: D-5 Sheet 1 of 1

Groundwater Observations

Date	Time	Depth (m)	Casing at
2/27/2003	AM	*4.57	3.05
2/27/2003	AM	*0.61	OUT

Casing Hammer
Weight: _____ kg
Fall: _____ mm

Sampler Hammer
Weight: 63.5 kg
Fall: 762 mm

Ground Elev.: 48.89 m

Boring Advance By: 8.3 cm Auger

Borehole caved at 2.6 meters. *Water reading may be affected by water induced during bedrock coring.

DEPTH (meters)	METHOD OF ADVANCE	SAMPLE NO.	DEPTH OF SAMPLE From	DEPTH OF SAMPLE To	SAMPLE TYPE	BLOWS ON SAMPLER PER 152 mm 51-mm O.D. SAMPLER	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL (f - fine, m - medium, c - course; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	RECOVERY (mm)
0	AUGER	1	0.00	0.61	SS	52 80 28 28	0.1	10 cm TOPSOIL & ORGANIC MATERIAL Brown c-mf SAND; some mf GRAVEL; trace SILT (moist, non-plastic)	559
1		2	0.61	1.22	SS	25 28 35 19	1.1	Brown c-mf SAND; some mf GRAVEL; little SILT (moist, non-plastic)	305
		3	1.22	1.83	SS	21 16 14 19	1.8	Brown mf+ SAND; little SILT; trace ORGANIC MATERIAL (roots); (wet, non-plastic)	51
2		4	1.83	2.44	SS	8 9 12 25		Brown mf SAND; little mf+ GRAVEL; trace SILT (moist, non-plastic)	457
		5	2.44	2.93	SS	20 16 18 100/2.5cm	3.0	Similar Soil	432
3	NX CORE		3.05	4.57	NX	RUN 1		Grey Biotite Schist 145 cm or 95% Recovery 11 Pieces (154 cm) - 7% Chips and Fragments 7 Pieces longer than 10 cm (114 cm) - RQD = 75%	1448
4							4.6		
5								Boring terminated at 4.6 meters. Notes: 1. Borehole backfilled with on-site soils upon completion.	
6									

SS Split Spoon Sample
NX Rock Core
SH Undisturbed Sample (Shelby Tube)
Estimated Groundwater

Drillers: Mark Childs; Paul McAloon

Inspector: _____

ATL-LOG1 METRIC CD2209.GPJ ATL-WELL.GDT 3/14/03

ATLANTIC TESTING LABORATORIES, Limited

Subsurface Investigation

Report No.: CD2209-3-03

Client: STV Incorporated

Boring Location: See Boring Location Plan

Project: Subsurface Investigation

Proposed Library & Learning Center

West Point, New York

Start Date: 2/26/2003 Finish Date: 2/26/2003

Boring No.: D-6 Sheet 1 of 1

Groundwater Observations

Date	Time	Depth (m)	Casing at
2/26/2003	PM	*3.96	2.53
2/26/2003	PM	DRY	OUT

Casing Hammer
Weight: _____ kg
Fall: _____ mm

Sampler Hammer
Weight: 63.5 kg
Fall: 762 mm

Ground Elev.: 48.62 m

Boring Advance By: 8.3 cm Auger

*Water reading may be affected by water induced during bedrock coring.

DEPTH (meters)	METHOD OF ADVANCE	SAMPLE NO.	DEPTH OF SAMPLE From	DEPTH OF SAMPLE To	SAMPLE TYPE	BLOWS ON SAMPLER PER 152 mm 51-mm O.D. SAMPLER	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL (f - fine, m - medium, c - course; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	RECOVERY (mm)
0	AUGER	1	0.00	0.61	SS	12 6 8 14	0.1	10 cm TOPSOIL & ORGANIC MATERIAL Brown mf+ SAND; little mf GRAVEL; trace SILT (moist, non-plastic)	432
1	AUGER	2	0.61	1.22	SS	12 10 10 9		Grey ROCK FRAGMENTS; Possible COBBLE (moist, non-plastic)	178
	AUGER	3	1.22	1.83	SS	6 7 9 10		Brown mf SAND; little mf GRAVEL; trace SILT (moist, non-plastic)	432
2	AUGER	4	1.83	2.29	SS	9 18 100		Brown c-mf SAND; some mf+ GRAVEL; trace SILT (moist, non-plastic)	279
							2.5		
3	NX CORE		2.53	4.05	NX	RUN 1		Grey Biotite Schist 122 cm or 80% Recovery 7 Pieces (97 cm) - 21% Chips and Fragments 4 Pieces longer than 10 cm (76 cm) - RQD - 50%	1219
4							4.1	Boring terminated at 4.1 meters. Notes: 1. Borehole backfilled with on-site soils upon completion.	
5									
6									

ATL-LOG1_METRIC_CD2209.GPJ ATL-WELL.GDT 3/5/03

SS Split Spoon Sample
NX Rock Core
SH Undisturbed Sample (Shelby Tube)
Estimated Groundwater

Drillers: Mark Childs; Paul McAloon

Inspector: _____

ATLANTIC TESTING LABORATORIES, Limited

Subsurface Investigation

Report No.: CD2209-3-03

Client: STV Incorporated

Boring Location: See Boring Location Plan

Project: Subsurface Investigation

Proposed Library & Learning Center

West Point, New York

Start Date: 2/25/2003 Finish Date: 2/26/2003

Boring No.: D-7 Sheet 1 of 2

Groundwater Observations

Date	Time	Depth (m)	Casing at
2/25/2003	PM	DRY	7.62'
2/26/2003	AM	DRY	7.62
2/26/2003	AM	DRY	9.14
2/26/2003	AM	DRY	*OUT

Casing Hammer
Weight: _____ kg
Fall: _____ mm

Sampler Hammer
Weight: 63.5 kg
Fall: 762 mm

Ground Elev.: 48.10 m

Boring Advance By: 8.3 cm Auger

Borehole caved at 7 meters. Based on soil moisture the water table appears to be about 7 meters below the surface.

DEPTH (meters)	METHOD OF ADVANCE	SAMPLE NO.	DEPTH OF SAMPLE From	DEPTH OF SAMPLE To	SAMPLE TYPE	BLOWS ON SAMPLER PER 152 mm 51-mm O.D. SAMPLER	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL (f - fine, m - medium, c - course; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	RECOVERY (mm)
0	AUGER	1	0.00	0.61	SS	22 33 9 11	0.1	10 cm TOPSOIL & ORGANIC MATERIAL	432
							0.6	Brown mf+ SAND; some mf GRAVEL; little SILT; trace ORGANIC MATERIAL (roots); (moist, non-plastic)	
1		2	0.61	1.22	SS	10 7 5 5		Brown mf+ SAND; some mf GRAVEL; little SILT (moist, non-plastic)	203
2		3	1.52	2.13	SS	13 11 13 11		Brown c-mf SAND; and c-mf GRAVEL; trace SILT (moist, non-plastic)	457
3		4	3.05	3.66	SS	21 13 23 16		Similar Soil	178
4		5	4.57	5.18	SS	18 11 14 16		Brown mf SAND; and c-mf GRAVEL; trace SILT (wet, non-plastic)	279
5									
6									

ATL-LOG1 METRIC CD2209 GP-J ATL-WELL GDT 3/14/03

SS Split Spoon Sample
NX Rock Core
SH Undisturbed Sample (Shelby Tube)
Estimated Groundwater

Drillers: Mark Childs; Paul McAloon

Inspector: _____

ATLANTIC TESTING LABORATORIES, Limited

SUBSURFACE INVESTIGATION

Boring No.: D-7 Report No.: CD2209-3-03 Sheet 2 of 2

DEPTH (meters)	METHOD OF ADVANCE	SAMPLE NO.	DEPTH OF SAMPLE From	DEPTH OF SAMPLE To	SAMPLE TYPE	BLOWS ON SAMPLER PER 152 mm 51-mm O.D. SAMPLER	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL (f - fine, m - medium, c - course; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	RECOVERY (mm)
		6	6.10	6.71	SS	32 25 12 10		Similar Soil	203
7							7.6		
		7	7.62	8.23	SS	8 7 8 8		Brown c-mf SAND; trace SILT (wet, non-plastic)	279
8									
9		8	9.14	9.75	SS	15 12 12 12		Brown c-mf SAND; little cmf GRAVEL; trace SILT (wet, non-plastic)	127
							9.8	Boring terminated at 9.8 meters.	
10								Notes: 1. Borehole backfilled with on-site soils upon completion.	
11									
12									
13									
14									
15									

ATL-LOG1_METRIC_CD2209.GPJ ATL-WELL.GDT 3/14/03

ATLANTIC TESTING LABORATORIES, Limited

Subsurface Investigation

Report No.: CD2209-3-03

Client: STV Incorporated

Boring Location: See Boring Location Plan

Project: Subsurface Investigation

Proposed Library & Learning Center

West Point, New York

Start Date: 2/27/2003 Finish Date: 2/27/2003

Boring No.: D-8 Sheet 1 of 2

Groundwater Observations

Date	Time	Depth (m)	Casing at
2/27/2003	AM	*8.72	7.32
2/27/2003	PM	*0.91	OUT

Casing Hammer Weight: _____ kg Fall: _____ mm

Sampler Hammer Weight: 63.5 kg Fall: 762 mm

Ground Elev.: 48.71 m

Boring Advance By: 8.3 cm Auger

Borehole caved at 5.5 meters. *Water reading may be affected by water induced during bedrock coring. Based on soil moisture the water table appears to be about 8 meters below the surface.

DEPTH (meters)	METHOD OF ADVANCE	SAMPLE NO.	DEPTH OF SAMPLE From	DEPTH OF SAMPLE To	SAMPLE TYPE	BLOWS ON SAMPLER PER 152 mm 51-mm O.D. SAMPLER	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL	RECOVERY (mm)
								f - fine; m - medium; c - course; and - 35-50%; some - 20-35%; little - 10-20%; trace - 0-10%	
0	AUGER	1	0.00	0.61	SS	25 50 30 15	0.1	10 cm TOPSOIL & ORGANIC MATERIAL	533
								Brown c-mf SAND; little mf GRAVEL; trace SILT (moist, non-plastic)	
		2	0.61	1.22	SS	15 9 8 7	0.8		127
1								Brown mf SAND; little SILT; trace f GRAVEL (moist, non-plastic)	
		3	1.22	1.83	SS	2 3 4 9		Reddish-Brown f SAND; and SILT; trace CLAY; trace f GRAVEL (moist, very slightly plastic)	305
2		4	1.83	2.44	SS	10 9 6 6		Brown c-mf SAND; little mf GRAVEL; trace SILT (moist, non-plastic)	229
		5	2.44	3.05	SS	11 11 9 10		Brown cmf SAND; some SILT; little mf GRAVEL (moist, non-plastic)	203
3		6	3.05	3.66	SS	12 10 8 8		Brown mf SAND; little mf GRAVEL; trace SILT (moist, non-plastic)	305
							4.6		
4		7	4.57	5.18	SS	9 4 4 5		Brown mf+ SAND; little SILT; trace f GRAVEL (moist, non-plastic)	356
5									
6									

ATL-LOG1 METRIC CD2209.GPJ ATL-WELL.GDT 3/14/03

SS Split Spoon Sample
NX Rock Core
SH Undisturbed Sample (Shelby Tube)
Estimated Groundwater

Drillers: Mark Childs; Paul McAloon

Inspector: _____

ATLANTIC TESTING LABORATORIES, Limited

SUBSURFACE INVESTIGATION

Boring No.: D-8 Report No.: CD2209-3-03 Sheet 2 of 2

DEPTH (meters)	METHOD OF ADVANCE	SAMPLE NO.	DEPTH OF SAMPLE From	DEPTH OF SAMPLE To	SAMPLE TYPE	BLOWS ON SAMPLER PER 152 mm 51-mm O.D. SAMPLER	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL (f - fine, m - medium, c - course; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	RECOVERY (mm)
		8	6.10	6.71	SS	14 10 10 13		Brown mf+ SAND; some SILT; little mf GRAVEL (saturated, non-plastic)	76
7							7.3		
	NX CORE		7.32	8.84	NX	RUN 1		Grey Hornblend Garnet Gneiss 152 cm or 100% Recovery 6 Pieces (157 cm) - 0% Chips and Fragments 4 Pieces longer than 10 cm (142 cm) - RQD = 93%	1524
8							8.8		
9								Boring terminated at 8.8 meters. Notes: 1. Borehole backfilled with on-site soils upon completion.	
10									
11									
12									
13									
14									
15									

ATL-LOG1 METRIC CD2209.GPJ ATL-WELL.GDT 3/14/03

APPENDIX "A"

ARCHITECTURAL DOOR HARDWARE SCHEDULE

Notes:

1. Complete specification includes hardware schedule and hardware specification.
2. Alternate manufacturers are listed in the hardware specification for the purposes of competitive bidding. These alternates may vary in performance or appearance from the “basis of design” items listed here.

Hardware Group No. 01
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	STOREROOM LOCK	L9080W O7A LESS CYLINDER	630	SCH
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 01A
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	STOREROOM LOCK	L9080W O7A LESS CYLINDER	630	SCH
1	EA	SURFACE CLOSER	4011 EDA	689	LCN
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 01B
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1 4.5 X 4.5 NRP	652	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	STOREROOM LOCK	L9080W O7A LESS CYLINDER	630	SCH
1	EA	SURFACE CLOSER	4111 EDA	689	LCN
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 01C
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	STOREROOM LOCK	L9080W 8O7A KNURL LESS CYLINDER	630	SCH
1	EA	SURFACE CLOSER	4011 EDA	689	LCN
1	EA	KICK PLATE	8400 8" X 2" LDW	630	IVE
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 01D
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1 4.5 X 4.5 NRP	652	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	STOREROOM LOCK	L9080W 8O7A KNURL LESS CYLINDER	630	SCH
1	EA	SURFACE CLOSER	4111 EDA	689	LCN
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 01E
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1 4.5 X 4.5 NRP	652	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	CLASSROOM DEADBOLT	83T7S STK (2-3/4" DBLT STRIKE)	626	BES
1	EA	STOREROOM LOCK	L9080W O7A LESS CYLINDER	630	SCH
1	EA	SURFACE CLOSER	4111 EDA	689	LCN
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
1	SET	PERIMETER SEAL	328A HEAD & JAMBS	628	ZER
1	EA	DOOR SWEEP	339A	AL	ZER

Hardware Group No. 01F
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1 4.5 X 4.5 NRP	652	IVE
2	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	STOREROOM LOCK	L9080W O7A LESS CYLINDER	630	SCH
1	EA	SURFACE CLOSER	4111 EDA	689	LCN
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
1	SET	PERIMETER SEAL	328A HEAD & JAMBS	628	ZER

1	EA	DOOR SWEEP	339A	AL	ZER

Hardware Group No. 01G
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	STOREROOM LOCK	L9080W 8O7A KNURL LESS CYLINDER	630	SCH
1	EA	SURFACE CLOSER	4011 EDA X ST1544	689	LCN
1	EA	OVERHEAD STOP	410S	630	GLY
1	EA	KICK PLATE	8400 8" X 2" LDW	630	IVE
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 01H
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	STOREROOM LOCK	L9080W O7A LESS CYLINDER	630	SCH
1	EA	SURFACE CLOSER	4011 EDA	689	LCN
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 02
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	OFFICE LOCK	L9056W 07A LESS CYLINDER	630	SCH
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
3	EA	SILENCER	SR64	GRY	IVE
1	EA	COAT & HAT HOOK	574	626	IVE

Hardware Group No. 02A
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	OFFICE LOCK	L9056W 07A LESS CYLINDER	630	SCH
1	EA	SURFACE CLOSER	4011 EDA X ST1544	689	LCN
1	EA	OVERHEAD STOP	410S	630	GLY
1	EA	KICK PLATE	8400 8" X 2" LDW	630	IVE
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE

3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 02B
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	OFFICE LOCK	L9056W 07A LESS CYLINDER	630	SCH
1	EA	SURFACE CLOSER	4011 EDA	689	LCN
1	EA	KICK PLATE	8400 8" X 2" LDW	630	IVE
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 03
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	CLASSROOM LOCK	L9070W 07A LESS CYLINDER	630	SCH
1	EA	SURFACE CLOSER	4011 EDA	689	LCN
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 03A
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	CLASSROOM LOCK	L9070W 07A LESS CYLINDER	630	SCH
1	EA	SURFACE CLOSER	4111 EDA	689	LCN
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 03B
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	CLASSROOM LOCK	L9070W 07A LESS CYLINDER	630	SCH
1	EA	SURFACE CLOSER	4111 EDA	689	LCN
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
1	SET	SMOKE SEAL	188A HEAD & JAMBS	628	ZER
1	EA	DOOR SWEEP	339A	AL	ZER

Hardware Group No. 03C
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	STOREROOM LOCK	L9080W 07A LESS O/S TRIM, LESS	630	SCH
1	EA	SURFACE CLOSER	4011 EDA	689	LCN
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
1	SET	SMOKE SEAL	188A HEAD & JAMBS	628	ZER
1	EA	DOOR SWEEP	339A	AL	ZER

Hardware Group No. 03D
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	CLASSROOM LOCK	L9070W 07A LESS CYLINDER	630	SCH
1	EA	SURFACE CLOSER	4011 EDA X ST1544	689	LCN
1	EA	OVERHEAD STOP	410S	630	GLY
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 03E
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	CLASSROOM LOCK	L9070W 07A LESS CYLINDER	630	SCH
1	EA	SURFACE CLOSER	4011 EDA	689	LCN
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 03F
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	CLASSROOM LOCK	L9070W 07A LESS CYLINDER	630	SCH
1	EA	SURFACE CLOSER	4111 EDA	689	LCN
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
1	SET	ACOUSTIC SEAL	475A HEAD & JAMBS	628	ZER
1	EA	AUTO DOOR BOTTOM	365	AL	ZER

3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 04
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	PASSAGE LATCH	L9010P 07A	630	SCH
1	EA	SURFACE CLOSER	4011 EDA	689	LCN
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 04A
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	PASSAGE LATCH	L9010P 07A	630	SCH
1	EA	SURFACE CLOSER	4011 EDA	689	LCN
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 04B
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
2	EA	SGL DUMMY TRIM	L0170 07A	630	SCH
2	EA	SURFACE CLOSER	4011 EDA	689	LCN
2	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 04C
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
2	EA	SGL DUMMY TRIM	L0170 07A	630	SCH
2	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 05
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	PRIVACY LOCK	L9040P 07A XL11-800	630	SCH
1	EA	MOP PLATE	8400 4" X 1" LDW	630	IVE
1	EA	KICK PLATE	8400 8" X 2" LDW	630	IVE
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE

3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 06
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
1	EA	INTERMEDIATE PIVOT	7212-INT	626	IVE
1	SET	PIVOTS	7253	626	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	DEADBOLT LOCK	STOREROOM L460 LESS CYLINDER	630	SCH
1	EA	ROLLER LATCH	RL1152	630	IVE
1	EA	EDGE PULL	BF94	630	ROC
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 07
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
2	EA	MANUAL FLUSH BOLT	FB458	626	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	STOREROOM LOCK	L9080W O7A LESS CYLINDER	630	SCH
1	EA	SGL DUMMY TRIM	L0170 07A	630	SCH
1	EA	SURFACE CLOSER	4111 EDA	689	LCN
2	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 07A
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	PR	AUTO FLUSH BOLT	FB31P	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	STOREROOM LOCK	L9080W O7A LESS CYLINDER	630	SCH
1	EA	COORDINATOR	COR X FL X MB (AS REQUIRED)	628	IVE
2	EA	SURFACE CLOSER	4011 EDA	689	LCN
2	EA	KICK PLATE	8400 8" X 1" LDW	630	IVE
2	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 07B
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	PR	AUTO FLUSH BOLT	FB31P	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	STOREROOM LOCK	L9080W O7A LESS CYLINDER	630	SCH
1	EA	COORDINATOR	COR X FL X MB (AS REQUIRED)	628	IVE
2	EA	SURFACE CLOSER	4111 EDA	689	LCN
2	EA	KICK PLATE	8400 8" X 1" LDW	630	IVE
2	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 07C
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	PR	AUTO FLUSH BOLT	FB31P	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	STOREROOM LOCK	L9080W 8O7A KNURL LESS CYLINDER	630	SCH
1	EA	COORDINATOR	COR X FL X MB (AS REQUIRED)	628	IVE
2	EA	SURFACE CLOSER	4111 EDA	689	LCN
2	EA	KICK PLATE	8400 8" X 1" LDW	630	IVE
2	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 07D
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	PR	AUTO FLUSH BOLT	FB31P	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	STOREROOM LOCK	L9080W O7A LESS CYLINDER	630	SCH
1	EA	COORDINATOR	COR X FL X MB (AS REQUIRED)	628	IVE
2	EA	SURFACE CLOSER	4011 EDA	689	LCN
2	EA	KICK PLATE	8400 8" X 1" LDW	630	IVE
1	SET	ACOUSTIC SEAL	475A HEAD & JAMBS	628	ZER
2	EA	AUTO DOOR BOTTOM	365	AL	ZER

Hardware Group No. 07E
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
2	EA	MANUAL FLUSH BOLT	FB458	626	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	STOREROOM LOCK	L9080W O7A LESS CYLINDER	630	SCH
1	EA	SURFACE CLOSER	4011 EDA	689	LCN
1	SET	PERIMETER SEAL	328A HEAD & JAMBS	628	ZER
2	EA	DOOR SWEEP	339A	AL	ZER

Hardware Group No. 07F
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	SET	CONST LATCHING BOLT	FB51P	626	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	STOREROOM LOCK	L9080W O7A LESS CYLINDER	630	SCH
1	EA	COORDINATOR	COR X FL X MB (AS REQUIRED)	628	IVE
2	EA	SURFACE CLOSER	4011 EDA	689	LCN
2	EA	KICK PLATE	8400 8" X 1" LDW	630	IVE
2	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 07G
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	PR	AUTO FLUSH BOLT	FB31P	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	STOREROOM LOCK	L9080W O7A LESS CYLINDER	630	SCH
1	EA	COORDINATOR	COR X FL X MB (AS REQUIRED)	628	IVE
2	EA	SURFACE CLOSER	4111 EDA	689	LCN
2	EA	KICK PLATE	8400 8" X 1" LDW	630	IVE
1	SET	PERIMETER SEAL	328A (JAMBS) X 428A (HEAD)	628	ZER
2	EA	DOOR SWEEP	339A	AL	ZER

Hardware Group No. 07H
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	PR	AUTO FLUSH BOLT	FB41P	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	STOREROOM LOCK	L9080W O7A LESS O/S TRIM LESS	630	SCH
1	EA	COORDINATOR	COR X FL X MB (AS REQUIRED)	628	IVE
2	EA	SURFACE CLOSER	4111 EDA	689	LCN
2	EA	KICK PLATE	8400 8" X 1" LDW	630	IVE
2	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 07J
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
2	EA	MANUAL FLUSH BOLT	FB458	626	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
2	EA	SGL DUMMY TRIM	L0170 07A	630	SCH
1	EA	PASSAGE LATCH	L9010P 07A	630	SCH
2	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 08 VESTIBULE TO MEN/WOMEN ROOM
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	PUSH PLATE	8200 4 X 16	630	IVE
1	EA	PULL PLATE	8302-0 4 X 16	630	IVE
1	EA	SURFACE CLOSER	4011 EDA	689	LCN
1	EA	MOP PLATE	8400 4" X 1" LDW	630	IVE
1	EA	KICK PLATE	8400 8" X 2" LDW	630	IVE
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 09
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
2	EA	MANUAL FLUSH BOLT	FB458	626	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	DEADBOLT LOCK	CLASSROOM L463W LESS CYLINDER	626	SCH
2	EA	PULL	DP6111	630	FOR
2	EA	SURFACE CLOSER	4011 EDA	689	LCN
2	EA	KICK PLATE	8400 8" X 1" LDW	630	IVE
2	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
2	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 10 MEN/WOMEN ROOM
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	DEADBOLT LOCK	CLASSROOM L463W LESS CYLINDER	626	SCH
1	EA	PUSH PLATE	8200 4 X 16	630	IVE
1	EA	PULL PLATE	8302-0 4 X 16	630	IVE
1	EA	SURFACE CLOSER	4011 EDA	689	LCN
1	EA	MOP PLATE	8400 4" X 1" LDW	630	IVE
1	EA	KICK PLATE	8400 8" X 2" LDW	630	IVE
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 11 STAIR
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1HW 4.5 X 4.5	652	IVE
1	EA	FIRE EXIT DEVICE	99L-F-BE X 994L-BE X 07A TRIM	626	VON
1	EA	SURFACE CLOSER	4011 EDA	689	LCN
1	EA	KICK PLATE	8400 8" X 2" LDW	630	IVE
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 11A STAIR
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1HW 4.5 X 4.5	652	IVE
1	EA	FIRE EXIT DEVICE	99L-F-BE X 994L-BE X 07A TRIM	626	VON
1	EA	SURFACE CLOSER	4111 EDA	689	LCN
1	EA	KICK PLATE	8400 8" X 2" LDW	630	IVE
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 12 STAIR
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1HW 4.5 X 4.5	652	IVE
2	EA	FIRE EXIT DEVICE	9927-L-F-BE X 994L-BE X 07A X LBR	626	VON
2	EA	SURFACE CLOSER	4011 EDA	689	LCN
2	EA	KICK PLATE	8400 8" X 2" LDW	630	IVE
2	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
2	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 13
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1HW 4.5 X 4.5	652	IVE
2	EA	FIRE EXIT DEVICE	9947-L-F-BE X 994L-BE X 07A X LBR	626	VON
2	EA	SURFACE CLOSER	4011 EDA	689	LCN
2	EA	KICK PLATE	8400 8" X 2" LDW	630	IVE
2	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
2	EA	MAGNETIC HOLD-OPEN	SEM 7850 24V	AL	LCN
2	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 14 DOUBLE EGRESS DOOR
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1HW 4.5 X 4.5	652	IVE
2	EA	FIRE EXIT DEVICE	9947-L-F-BE X 994L-BE X 07A X LBR	626	VON
2	EA	SURFACE CLOSER	4010T DE	689	LCN
2	EA	KICK PLATE	8400 8" X 2" LDW	630	IVE
2	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
2	EA	MAGNETIC HOLD-OPEN	SEM 7850 24V	AL	LCN

2	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 15
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1HW 4.5 X 4.5	652	IVE
1	EA	FIRE EXIT DEVICE	99L-F X 994L X 07A TRIM	626	VON
1	EA	RIM CYLINDER	IE72	626	SCH
1	EA	SURFACE CLOSER	4111 EDA	689	LCN
1	EA	KICK PLATE	8400 8" X 2" LDW	630	IVE
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 16
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1HW 4.5 X 4.5	652	IVE
1	EA	PANIC DEVICE	99L-BE X 994L-BE X 07A TRIM	626	VON
1	EA	SURFACE CLOSER	4111 EDA	689	LCN
1	EA	KICK PLATE	8400 8" X 2" LDW	630	IVE
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 17
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1HW 4.5 X 4.5	652	IVE
2	EA	PULL	DP6111	630	FOR
2	EA	RIM CYLINDER	IE72	626	SCH
2	EA	SURFACE CLOSER	4111 EDA	689	LCN
2	EA	KICK PLATE	8400 8" X 2" LDW	630	IVE
2	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
2	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 18
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1HW 4.5 X 4.5	652	IVE
2	EA	FIRE EXIT DEVICE	9947-L-F X 994L X 07A TRIM	626	VON
2	EA	RIM CYLINDER	IE72	626	SCH
2	EA	SURFACE CLOSER	4111 EDA	689	LCN
2	EA	KICK PLATE	8400 8" X 2" LDW	630	IVE

2	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
2	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 18A
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1HW 4.5 X 4.5	652	IVE
2	EA	FIRE EXIT DEVICE	9947-L-F X 994L X 07A TRIM	626	VON
2	EA	RIM CYLINDER	IE72	626	SCH
2	EA	SURFACE CLOSER	4111 EDA	689	LCN
2	EA	KICK PLATE	8400 8" X 2" LDW	630	IVE
2	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
1	SET	PERIMETER SEAL	328A HEAD & JAMBS	628	ZER
2	EA	DOOR SWEEP	339A	AL	ZER

Hardware Group No. 19
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	PR	AUTO FLUSH BOLT	FB31P	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	CLASSROOM LOCK	L9070W 07A LESS CYLINDER	630	SCH
1	EA	COORDINATOR	COR X FL X MB (AS REQUIRED)	628	IVE
2	EA	SURFACE CLOSER	4011 EDA	689	LCN
2	EA	KICK PLATE	8400 8" X 1" LDW	630	IVE
2	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 19A
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	PR	AUTO FLUSH BOLT	FB31P	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	CLASSROOM LOCK	L9070W 07A LESS CYLINDER	630	SCH
1	EA	COORDINATOR	COR X FL X MB (AS REQUIRED)	628	IVE
2	EA	SURFACE CLOSER	4111 EDA	689	LCN
1	SET	ACOUSTIC SEAL	475A HEAD & JAMBS	628	ZER
2	EA	AUTO DOOR BOTTOM	365	AL	ZER
2	EA	KICK PLATE	8400 8" X 1" LDW	630	IVE
2	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 20 STAIR
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1HW 4.5 X 4.5	652	IVE
1	EA	FIRE EXIT DEVICE	99EO-F	626	VON
1	EA	SURFACE CLOSER	4011 EDA	689	LCN
1	EA	KICK PLATE	8400 8" X 2" LDW	630	IVE
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 21
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1HW 4.5 X 4.5 NRP	652	IVE
2	EA	PANIC DEVICE	CD9927-NL-OP	626	VON
2	EA	MORTISE CYLINDER	1E74	626	BES
2	EA	PULL	DP6111	630	FOR
2	EA	RIM CYLINDER	IE72	626	SCH
2	EA	SURFACE CLOSER	4020	689	LCN
2	EA	OVERHEAD STOP	100S	630	GLY
1	SET	ACOUSTIC SEAL	475A HEAD & JAMBS	628	ZER
2	EA	AUTO DOOR BOTTOM	365	AL	ZER

Hardware Group No. 21A
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1HW 4.5 X 4.5 NRP	652	IVE
2	EA	PANIC DEVICE	CD9927-NL-OP	626	VON
2	EA	MORTISE CYLINDER	1E74	626	BES
2	EA	PULL	DP6111	630	FOR
2	EA	RIM CYLINDER	IE72	626	SCH
2	EA	SURFACE CLOSER	4011 EDA X ST1544	689	LCN
2	EA	OVERHEAD STOP	100S	630	GLY
1	SET	ACOUSTIC SEAL	475A HEAD & JAMBS	628	ZER
2	EA	AUTO DOOR BOTTOM	365	AL	ZER

Hardware Group No. EX-01
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1HW 4.5 X 4.5 NRP	630	IVE
2	EA	PANIC DEVICE	CD9947WDC-NL-OP X LBR	626	VON
2	EA	MORTISE CYLINDER	1E74	626	BES
2	EA	PULL	DP6111	630	FOR
2	EA	RIM CYLINDER	IE72	626	SCH
2	EA	SURFACE CLOSER	4111 EDA CUSH	689	LCN
2	EA	OVERHEAD STOP	100S	630	GLY
2	EA	KICK PLATE	8400 8" X 2" LDW	630	IVE
1	SET	PERIMETER SEAL	328A (JAMBS) X 428A (HEAD)	628	ZER
2	EA	DOOR SWEEP	339A	AL	ZER

Hardware Group No. EX-02
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1HW 4.5 X 4.5 NRP	630	IVE
1	EA	PANIC DEVICE	99 EO	626	VON
1	EA	SURFACE CLOSER	4111 EDA CUSH	689	LCN
1	EA	OVERHEAD STOP	100S	630	GLY
1	EA	KICK PLATE	8400 8" X 2" LDW	630	IVE
1	SET	PERIMETER SEAL	328A (JAMBS) X 428A (HEAD)	628	ZER
1	EA	DOOR SWEEP	339A	AL	ZER

Hardware Group No. EX-03
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1HW 4.5 X 4.5 NRP	630	IVE
2	EA	MANUAL FLUSH BOLT	FB458	626	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	STOREROOM LOCK	L9080W O7A LESS CYLINDER	630	SCH
1	EA	SGL DUMMY TRIM	L0170 07A	630	SCH
2	EA	SURFACE CLOSER	4111 EDA CUSH	689	LCN
2	EA	OVERHEAD STOP	100S	630	GLY
2	EA	KICK PLATE	8400 8" X 1" LDW	630	IVE
1	SET	PERIMETER SEAL	328A HEAD & JAMBS	628	ZER
2	EA	DOOR SWEEP	339A	AL	ZER

Hardware Group No. EX-04
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1HW 4.5 X 4.5 NRP	630	IVE
2	EA	PANIC DEVICE	CD9927-NL-OP X LBR	626	VON
2	EA	MORTISE CYLINDER	1E74	626	BES
2	EA	PULL	DP6111	630	FOR
2	EA	RIM CYLINDER	IE72	626	SCH
2	EA	SURFACE CLOSER	4111 EDA CUSH	689	LCN
2	EA	OVERHEAD STOP	100S	630	GLY
2	EA	KICK PLATE	8400 8" X 2" LDW	630	IVE
2	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
1	SET	PERIMETER SEAL	328A (JAMBS) X 428A (HEAD)	628	ZER
2	EA	DOOR SWEEP	339A	AL	ZER

Hardware Group No. EX-05
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1HW 4.5 X 4.5 NRP	630	IVE
2	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	STOREROOM LOCK	L9080W O7A LESS CYLINDER	630	SCH
2	EA	SURFACE CLOSER	4111 EDA CUSH	689	LCN
2	EA	OVERHEAD STOP	100S	630	GLY
2	EA	KICK PLATE	8400 8" X 2" LDW	630	IVE
2	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
1	SET	PERIMETER SEAL	328A (JAMBS) X 428A (HEAD)	628	ZER
2	EA	DOOR SWEEP	339A	AL	ZER

Hardware Group No. S01 CARD READER- SECURITY HW (CR,LS,PS)
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	ELECTRIC LOCK	RX-L9080WEU 07A FAIL SECURE LESS	630	SCH
1	EA	SURFACE CLOSER	4011 EDA	689	LCN
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. S01A CARD READER- SECURITY HW (CR, LS,PS)
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	ELECTRIC LOCK	RX-L9080WEU 07A FAIL SECURE LESS	630	SCH
1	EA	SURFACE CLOSER	4111 EDA	689	LCN
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. S01B CARD READER- SECURITY HW (CR, LS,PS)
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	ELECTRIC LOCK	RX-L9080WEU 07A FAIL SECURE LESS	630	SCH
1	EA	SURFACE CLOSER	4111 EDA CUSH	689	LCN
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. S01C CARD READER- SECURITY HW (CR,LS,PS)
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	ELECTRIC LOCK	RX-L9080WEU 07A FAIL SECURE LESS	630	SCH
1	EA	SURFACE CLOSER	4011 EDA	689	LCN
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
1	SET	ACOUSTIC SEAL	475A HEAD & JAMBS	628	ZER
1	EA	AUTO DOOR BOTTOM	365	AL	ZER

Hardware Group No. S01D CARD READER- SECURITY HW (CR,LS,PS)
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	ELECTRIC LOCK	RX-L9080WEU 07A FAIL SECURE LESS	630	SCH
1	EA	SURFACE CLOSER	4020	689	LCN
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
1	SET	ACOUSTIC SEAL	475A HEAD & JAMBS	628	ZER
1	EA	AUTO DOOR BOTTOM	365	AL	ZER

Hardware Group No. S02 CARD READER- SECURITY HW (CR,LS,DS)
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1HW 4.5 X 4.5 NRP	652	IVE
2	EA	POWER TRANSFER	EPT10	689	VON
2	EA	FIRE EXIT DEVICE	RX-EL9947L-F X 994L X 07A TRIM 24VDC	626	VON
2	EA	RIM CYLINDER	IE72	626	SCH
2	EA	SURFACE CLOSER	4111 EDA	689	LCN
2	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
2	EA	SILENCER	SR64	GRY	IVE
1	EA	POWER SUPPLY	PS873-2 SERIES	GRY	VON

Hardware Group No. S02A CARD READER- SECURITY HW (CR,LS,DS)
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1HW 4.5 X 4.5 NRP	652	IVE
2	EA	POWER TRANSFER	EPT10	689	VON
2	EA	FIRE EXIT DEVICE	RX-EL9947L-F X 994L X 07A TRIM 24VDC	626	VON
2	EA	RIM CYLINDER	IE72	626	SCH
2	EA	SURFACE CLOSER	4020	689	LCN
2	EA	OVERHEAD STOP	100S	630	GLY
1	SET	ACOUSTIC SEAL	475A HEAD & JAMBS	628	ZER
2	EA	AUTO DOOR BOTTOM	365	AL	ZER
1	EA	POWER SUPPLY	PS873-2 SERIES	GRY	VON

Hardware Group No. S02B CARD READER- SECURITY HW (CR,LS,DS)
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1HW 4.5 X 4.5 NRP	652	IVE
2	EA	POWER TRANSFER	EPT10	689	VON
2	EA	PANIC DEVICE	RX-EL9927NL-OP X 24VDC	626	VON
2	EA	PULL	DP6111	630	FOR
2	EA	RIM CYLINDER	IE72	626	SCH
2	EA	SURFACE CLOSER	4111 EDA	689	LCN
2	EA	OVERHEAD STOP	100S	630	GLY
1	SET	ACOUSTIC SEAL	475A HEAD & JAMBS	628	ZER
2	EA	AUTO DOOR BOTTOM	365	AL	ZER
1	EA	POWER SUPPLY	PS873-2 SERIES	GRY	VON

Hardware Group No. S03 CARD READER- SECURITY HW (CR, LS,DS) PR DR
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	PR	AUTO FLUSH BOLT	FB31P	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	ELECTRIC LOCK	RX-L9080WEU 07A FAIL SECURE LESS	630	SCH
1	EA	COORDINATOR	COR X FL X MB (AS REQUIRED)	628	IVE
2	EA	SURFACE CLOSER	4011 EDA	689	LCN
2	EA	DOME STOP W/RISER	FS436 X 435	626	IVE

Hardware Group No. S03A CARD READER- SECURITY HW (CR, LS,DS) PR DR
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	PR	AUTO FLUSH BOLT	FB31P	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	ELECTRIC LOCK	RX-L9080WEU 07A FAIL SECURE LESS	630	SCH
1	EA	COORDINATOR	COR X FL X MB (AS REQUIRED)	628	IVE
2	EA	SURFACE CLOSER	4111 EDA	689	LCN
2	EA	DOME STOP W/RISER	FS436 X 435	626	IVE

Hardware Group No. S03B CARD READER- SECURITY HW (CR, LS,DS) PR DR
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	PR	AUTO FLUSH BOLT	FB31P	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	ELECTRIC LOCK	RX-L9080WEU 07A FAIL SECURE LESS	630	SCH
1	EA	COORDINATOR	COR X FL X MB (AS REQUIRED)	628	IVE
2	EA	SURFACE CLOSER	4111 EDA	689	LCN
2	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
1	SET	PERIMETER SEAL	328A (JAMBS) X 428A (HEAD)	628	ZER
2	EA	DOOR SWEEP	339A	AL	ZER

Hardware Group No. S04 CARD READER- SECURITY HW (CR,LS,DS)
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1HW 4.5 X 4.5 NRP	652	IVE
2	EA	POWER TRANSFER	EPT10	689	VON
2	EA	PANIC DEVICE	RX-EL9927NL-OP X 24VDC	626	VON
2	EA	PULL	DP6111	630	FOR
2	EA	RIM CYLINDER	IE72	626	SCH
2	EA	SURFACE CLOSER	4111 EDA	689	LCN
1	SET	ACOUSTIC SEAL	475A HEAD & JAMBS	628	ZER
2	EA	AUTO DOOR BOTTOM	365	AL	ZER
2	EA	KICK PLATE	8400 8" X 2" LDW	630	IVE
2	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
2	EA	SILENCER	SR64	GRY	IVE
1	EA	POWER SUPPLY	PS873-2 SERIES	GRY	VON

Hardware Group No. S04A CARD READER- SECURITY HW (CR,LS,DS)
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1HW 4.5 X 4.5 NRP	652	IVE
2	EA	POWER TRANSFER	EPT10	689	VON
2	EA	PANIC DEVICE	CD9927-NL-OP X LBR	626	VON
2	EA	MORTISE CYLINDER	1E74	626	BES
2	EA	PULL	DP6111	630	FOR
2	EA	RIM CYLINDER	IE72	626	SCH
2	EA	SURFACE CLOSER	4111 EDA CUSH	689	LCN
1	SET	ACOUSTIC SEAL	475A HEAD & JAMBS	628	ZER
2	EA	AUTO DOOR BOTTOM	365	AL	ZER
2	EA	KICK PLATE	8400 8" X 2" LDW	630	IVE
2	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
2	EA	SILENCER	SR64	GRY	IVE
1	EA	POWER SUPPLY	PS873-2 SERIES	GRY	VON

Hardware Group No. S05 CARD READER- SECURITY HW (DELAYED EGRESS)
Provide each SGL door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
3	EA	HINGE	3CB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	FIRE EXIT DEVICE	CX-99L-F X 994L X 07A TRIM 24VDC	626	VON
1	EA	MORTISE CYLINDER	1E74- 1 1/4" LENGTH	626	SCH
1	EA	RIM CYLINDER	IE72	626	SCH
1	EA	SURFACE CLOSER	4011 EDA	689	LCN
1	EA	DOME STOP W/RISER	FS436 X 435	626	IVE
3	EA	SILENCER	SR64	GRY	IVE
1	EA	POWER SUPPLY	PS871SERIES	GRY	VON
1	EA	ELECTRONIC HORN	1910-1 (24VDC)	WHT	LOC

NOTE: PANIC DEVICE EQUIPPED WITH LOCAL ALARM AND 15-SECOND DELAY.
KEY ACCESS BYPASSES ALARM AND DELAY. DEVICE TIED TO FIRE ALARM SYSTEM.
IN THE EVENT OF AN EMERGENCY, POWER IS DISCONNECTED AND FREE EXIT IS PERMITTED.

Hardware Group No. S06 CARD READER- SECURITY HW (CR,LS,DS)
Provide each PR door(s) with the following:

Quantity		Description	Model Number	Finish	Mfgr
6	EA	HINGE	3CB1HW 4.5 X 4.5 NRP	630	IVE
2	EA	POWER TRANSFER	EPT10	689	VON
2	EA	PANIC DEVICE	RX-EL9927NL-OP X 24VDC	626	VON
2	EA	MORTISE CYLINDER	1E74	626	BES
2	EA	PULL	DP6111	630	FOR
2	EA	RIM CYLINDER	IE72	626	SCH
2	EA	SURFACE CLOSER	4111 EDA CUSH	689	LCN
2	EA	OVERHEAD STOP	100S	630	GLY
1	SET	PERIMETER SEAL	328A (JAMBS) X 428A (HEAD)	628	ZER
2	EA	DOOR SWEEP	339A	AL	ZER
1	EA	POWER SUPPLY	PS873-2 SERIES	GRY	VON

End of Hardware Schedule

APPENDIX "A"

ARCHITECTURAL LIGHTING FIXTURE SCHEDULE

Notes:

1. Complete specification includes fixture schedule, fixture cuts and general fixture specification.
2. Multiple manufacturers are listed wherever possible. Where an equivalent manufacturer does not exist, alternate fixtures are listed. Alternate manufacturers are listed for competitive bidding. These alternates may vary in performance or appearance.

F1	Description:	Surface mounted 19"Ø x 11" H compact fluorescent downlight with a 11.5" Ø opal glass diffuser, white finish, reflector and integral electronic ballast mounted in canopy.
	Manufacturers:	Delray Lighting Inc., #2295-W-O-32-2-E Prisma, # Optalux 28C-Frosted-32CF-277V
	Mounting Type:	Gypsum Board Ceiling.
	Remarks:	Contractor to provide all necessary hardware for proper installation. Contractor to verify and coordinate fixture trim with ceiling details, refer to architectural plans and details. Fixtures to fit flush with ceiling plane with no visible gaps.
	Location:	Typical Corridor
	Supply:	277V
	Lamp:	(1) PLT-32/835/4P/ALTO, (Philips)

F1A	Description:	Similar to type “F1” except, mounted in an acoustical ceiling tile.
	Manufacturers:	Delray Lighting Inc., #2295-W-O-32-2-E Prisma, # Optalux 28C-Frosted-32CF-277V
	Mounting Type:	Acoustic Ceiling Tile System.
	Remarks:	Contractor to verify and coordinate fixture trim with ceiling details, refer to architectural plans and details. Fixtures to fit flush with ceiling plane with no visible gaps
	Location:	Break Room
	Supply:	277V
	Lamp:	(1) PLT-32/835/4P/ALTO, (Philips)

F1B	Description:	Similar to type “F1” except, with a 120V ballast.
	Manufacturers:	Delray Lighting Inc., #2295-W-O-32-1-E Prisma, # Optalux 28C-Frosted-32CF-120V
	Mounting Type:	Gypsum Board Ceiling.
	Remarks:	Contractor to provide all necessary hardware for proper installation. Contractor to verify and coordinate fixture trim with ceiling details, refer to architectural plans and details. Fixtures to fit flush with ceiling plane with no visible gaps.
	Location:	Typical Corridor
	Supply:	120V
	Lamp:	(1) PLT-32/835/4P/ALTO, (Philips)

F2	Description:	Cable pendant mounted nominal, 10 ½"W x 2 ¼"H linear fluorescent indirect/direct fixture with (3) T8 lamps in cross-section, one piece die formed housing, perforated diffuser slots, symmetric reflector and integral electronic ballast(s).
	Manufacturers:	Zumtobel,#EG-3328-X-W-20-U-C1/J5-F3/CBL070-J5-F3/CBL070-S2/EC-W Focal Point, # FV25-3T8-1C-277-E-C48-TBD-XX-XX-XX Linear, # C21OP1-3T8-PRD-BW-277-XX Neoray, # 210IP-P-3T8-277-XX-A-XX-XX
	Mounting Type:	Acoustic Ceiling Tile System
	Remarks:	Contractor is to coordinate fixture lengths with architectural drawings for continuous run conditions. Contractor to coordinate all power feed locations. 18″ minimum suspension Length required. Architect to verify actual suspension length. Provide all necessary hardware for a complete working system. Contractor to verify and coordinate fixture trim with ceiling details, refer to architectural plans and details. Fixture canopies to fit flush with ceiling plane with no visible gaps
	Location:	Offices & Classrooms
	Supply:	277V
	Lamp:	(3) F32T8/ADV835/ALTO, (Philips)
	Bid Notes:	Provide shop drawings for review and approval of all row lengths and power feed conditions.

F2D	Description:	Same as Fixture Type F2, exception with 120V HI LUME dimming ballast.
	Manufacturers:	Zumtobel,#EG-3328-X-W-20-4(HI-LUME)-C1/J5-F3/CBL070-J5-F3/CBL070-S2/EC-W Focal Point, # FV25-3T8-1C-120-D-C48-TBD-XX-XX-XX Linear, # C21OP1-3T8-PRD-BW-120-XX-DIM Neoray, # 201IP-P-3T8-120-DIM-A-XX-XX
	Mounting Type:	Acoustic Ceiling Tile System
	Remarks:	Contractor is to coordinate fixture lengths with architectural drawings for continuous run conditions. Contractor to coordinate all power feed locations. 18″ minimum suspension length required. Architect to verify and coordinate suspension length. Provide wall box dimmer as required. Provide all necessary hardware for a complete working system. Contractor to verify and coordinate fixture trim with ceiling details, refer to architectural plans and details. Fixture canopies to fit flush with ceiling plane with no visible gaps.
	Location:	Offices & Classrooms
	Supply:	120V
	Lamp:	(3) F32T8/ADV835/ALTO, (Philips)
	Bid Notes:	Provide shop drawings for review and approval of all row lengths and power feed conditions.

F3	Description:	Recessed incandescent low voltage downlight nominal 4" diameter white face plate with 2" open aperture, regressed smooth white cone, frosted glass lens and 3 ¾" D x 15" W x 9 ¾" L, housing with integral transformer.
	Manufacturers:	USA Illumination, Inc., # 325NC/9349/9143 RSA, # LX3001-WH-White Baffle-277V
	Mounting Type:	Gypsum Board Ceiling and Acoustical Ceiling. Contractor to verify.
	Remarks:	Contractor to verify and coordinate fixture trim with ceiling details, refer to architectural plans and details. Fixture trim to sit flush with ceiling plane with no visible gaps
	Location:	Offices, Classrooms Circulation Areas.
	Supply:	277/12V
	Lamp:	(1) 50mr16/IR/WF60, (OSRAM SYLVANIA)

F3A	Description:	Same as F3, except fixture shall be 120V and have satin nickel trim finish.
	Manufacturers:	USA Illumination, Inc., # 325NC/9349/9143/99 RSA, # LX3001-Satin Nickel-Baffle-120V
	Mounting Type:	Gypsum Board Ceiling and Acoustical Ceilings. Contractor to verify.
	Remarks:	Contractor to verify and coordinate fixture trim with ceiling details, refer to architectural plans and details. Fixture trim to sit flush with ceiling plane with no visible gaps. Architect to verify finish.
	Location:	West Point Room
	Supply:	120/12V
	Lamp:	(1) 50mr16/IR/WF60, (OSRAM SYLVANIA)

F3B	Description:	Same as F3, except different mounting location and bid conditions.
	Manufacturers:	USA Illumination, Inc., # 325NC/9349/9143 RSA, # LX3001-WH-White Baffle-277V
	Mounting Type:	Millwork Conditions.
	Remarks:	Contractor to verify and coordinate fixture trim with ceiling details, refer to architectural plans and details. Fixture trim to sit flush with ceiling plane with no visible gaps
	Location:	West Point Room display cases.
	Supply:	277/12V
	Lamp:	(1) 50mr16/IR/WF60, (OSRAM SYLVANIA)
	Bid Notes:	**Pertains to Bid Option #9 only.**

F3D	Description:	Same as F3, except fixture shall be 120V.
	Manufacturers:	USA Illumination, Inc., # 325NC/9349/9143 RSA, # LX3001-WH-White Baffle-120V
	Mounting Type:	Gypsum Board Ceiling and Acoustical Ceilings. Contractor to verify.
	Remarks:	Contractor to verify and coordinate fixture trim with ceiling details, refer to architectural plans and details. Fixture trim to fit flush with ceiling plane with no visible gaps

	Location:	Offices & Classrooms
	Supply:	120V/12V
	Lamp:	(1) 50mr16/IR/WF60, (OSRAM SYLVANIA)

F3EM	Description:	Same as fixture type F3, except remote emergency battery backup
	Manufacturers:	USA Illumination, Inc., # 325NC/9349/9143 RSA, # LX3001-WH-White Baffle-277V
	Battery Pack:	Atlite
	Mounting Type:	Gypsum Board Ceiling and Acoustical Ceilings. Contractor to verify.
	Remarks:	Contractor to size battery backpack to accommodate all of the F3 emergency fixtures within a given area. Battery pack and Test switch shall be in a remote accessible location. Contractor to verify and coordinate fixture trim with ceiling details, refer to architectural plans and details. Fixtures to fit flush with ceiling plane with no visible gaps
	Location:	Archive Building
	Supply:	277/12V
	Lamp:	(1) 50mr16/IR/WF60, (OSRAM SYLVANIA)

F4	Description:	Under cabinet mounted 1 3/16"H x 5 5/16"D single lamp T8 fluorescent strip light with white housing, acrylic lens and integral ballast
	Manufacturers:	Army Corp of Engineers Type FF1
	Mounting Type:	Millwork upper cabinets. Contractor is to coordinate mounting details, refer to architectural plans and details.
	Remarks:	Fixtures to be controlled by an on/off toggle switch. Contractor is to determine fixture lengths for continuous run coverage. Contractor is to coordinate placement of fixtures so that end of runs come within 6” of the end of cabinet and center within the overall length of the millwork. Use 4’-0” lengths wherever possible. Provide all necessary hardware for a complete working system.
	Location:	Offices, Pantry and Copy areas
	Supply:	277V
	Lamp:	(1) F32T8/ADV835/ALTO, (Philips)

F5	Description:	Cable mounted pendant nominal, 5"W x 6"H continuous linear fluorescent direct fixture with (2) T8 lamps in cross-section, one piece die formed trunk, V-shaped perforated diffuser with solid cross blades, die cast end caps and integral electronic ballast(s).
	Manufacturers:	Zumtobel, ZX-XDL-N2/32-X-U-C
	Mounting Type:	Pendant Mounted to concrete ceiling or Acoustical Ceiling. Mounting height 9’-0” AFF to bottom of fixture.
	Remarks:	Contractor is to coordinate fixture lengths with architectural drawings for continuous run conditions. Fixture trunk shall be longer than the lighting component as required to allow for fixture to mount to the structural beam. Contractor to verify and coordinate all mounting and power feed locations. Provide all necessary hardware for a complete working

		system. Contractor to verify and coordinate fixture trim with ceiling details, refer to architectural plans and details. Fixtures to fit flush with ceiling plane with no visible gaps. Contractor shall re-adjust all louver blades to be perpendicular to floor as required, post installation.
	Location:	Library Stacks and Reading Areas
	Supply:	277V
	Lamp:	(2) F32T8/ADV835/ALTO, (Philips)
	Bid Notes:	Provide shop drawings for review and approval of all row lengths and power feed conditions.

F5D	Description:	Same as Fixture "F5", except with integral 120V Hi-Lume dimming ballast.
	Manufacturers:	Zumtobel, ZX-XDL-N2/32-X-U-X-DM(Hi Lume)
	Mounting Type:	Pendant Mounted to concrete ceiling or Acoustical Ceiling. Mounting height 9′-0″ AFF to bottom of fixture.
	Remarks:	Contractor is to coordinate fixture lengths with architectural drawings for continuous run conditions. Provide all necessary hardware for a complete working system. Contractor to verify and coordinate fixture trim with ceiling details, refer to architectural plans and details. Fixtures to fit flush with ceiling plane with no visible gaps. Contractor shall re-adjust all louver blades to be perpendicular to floor as required.
	Location:	Reading Areas and Conference Rooms
	Supply:	120V
	Lamp:	(2) F32T8/ADV835/ALTO, (Philips)
	Bid Notes:	Provide shop drawings for review and approval of all row lengths and power feed conditions.

F6	Description:	Surface mounted single lamp compact fluorescent downlight, with 7″ diameter x 11″H sand blasted opal glass diffuser, painted hammertone steel canopy, and ballast located in the junction box.
	Manufacturers:	Delray, # 2345/H/O/26/2/E/exterior sandblasted Prisma, # Optalux 19C-Frosted-26CF
	Mounting Type:	Surface mounted to exposed ceiling.
	Remarks:	Fixtures to fit flush with surface plane with no visible gaps.
	Location:	Library Stack Corridors
	Supply:	277V
	Lamp:	(1) PL-T 26W/835/4P/ALTO, (Philips)
	Bid Notes:	

F6A	Description:	Pendant cable mounted single lamp compact fluorescent downlight, with 7″ diameter x 11″H sand blasted opal glass diffuser, painted hammertone steel canopy, and ballast located in the junction box.
	Manufacturers:	Delray, # 2345/H/O/26/2/E/exterior sandblasted Prisma, # Optalux 19C-Frosted-26CF
	Mounting Type:	Mounted to signage above Circulation/Reference desks.
	Remarks:	Location: Circulation and Reference desks.
	Supply:	277V

Lamp: (1) PL-T 26W/835/4P/ALTO, (Philips)
Bid Notes: **Pertains to Bid Option #5 only.**

F7 Description: Not Used

F8 Description: Custom or Custom modified surface mounted single lamp compact fluorescent sconce, nominal 24"H x 4" projection. Cast aluminum sandblasted body painted to match wrought iron, custom lamp and diffuser shield consisting of aluminum arms, decorative grills, sandblasted art glass diffuser and integral electronic ballast

Manufacturers: Baldinger
Hess
Rambusch
Crenshaw

Mounting Type: Exterior Wall Condition.

Remarks:

1. Manufactures shall price option 1-complete custom and option 2-modified standard with custom components.
2. Basis of design: Hess “Riva”. Refer to fixture cut sheet drawings E717 and E703-AR for more detailed information regarding the fixture’s overall dimensions, components, finishes and Custom modified vs. Custom options.
3. Fixtures shall be design build and will continue to develop through the shop drawing process.
4. Fixtures to have U.L. Label
5. Manufacture to guarantee all metals shall not sag, warp or easily dent. All metals to maintain a straight profile/edge after installation
6. All exposed joints to be fully welded and ground smooth with no visible seams.
7. All exposed metals to be finished in a faux wrought iron finish (To be reviewed and approved as part of the fabrication process).
8. Art glass, acrylics and diffusers to be selected (To be reviewed and approved as part of the fabrication process).
9. Manufacturer to provide shop drawings for fixture, which should include all dimensions, materials and lamping.
10. Following the approval of shop drawings the owner, architect and lighting designer will review elements of the lighting fixtures as fabrication proceeds including: metal finish diffuser finish, component details (i.e. rosette, finial and canopy). This review is intended to occur at the factory and provide the owner and design team an opportunity to view and approve specific detail elements of the fixture. This process is not intended to delay release for fixture fabrication but allow the owner an opportunity to engage and participate in the fabrication process. All scheduling implication should be clearly noted as the process develops.

11. Lighting Designer, Architect and Client will make trips to the factory to review and comment on fixture several times through out the manufacturing process.
12. Contractor to coordinate mounting with wall construction details. Fixture canopy to sit flush with wall without any visible gap.
13. Manufacturer to provide suggested mounting details and overall fixture weight. Contractor to coordinate and verify that wall structure and support will be adequate to support fixture.

Location: Library Stacks
Supply: 277V
Lamp: (1) PL-L-18/835, (Philips)

F8A Description: Custom or Custom modified surface mounted single lamp compact fluorescent sconce, nominal 6’-0"H x 12" projection. Cast aluminum sandblasted body painted to match wrought iron, custom lamp and diffuser shield consisting of aluminum arms, decorative grills, sandblasted art glass diffuser and integral electronic ballast

Manufacturers: Baldinger
Hess
Rambusch
Crenshaw

Mounting Type: Exterior Wall Condition.

Remarks:

1. Manufactures shall price option 1-complete custom and option 2-modified standard with custom components.
2. Basis of design: Hess “Riva”. Refer to fixture cut sheet and drawing E718 for more detailed information regarding the fixture’s overall dimensions, components, finishes and Custom modified vs. Custom options.
3. Fixtures shall be design build and will continue to develop through the shop drawing process.
4. Fixtures to have U.L. Label
5. Manufacture to guarantee all metals shall not sag, warp or easily dent. All metals to maintain a straight profile/edge after installation
6. All exposed joints to be fully welded and ground smooth with no visible seams.
7. All exposed metals to be finished in a faux wrought iron finish (To be reviewed and approved as part of the fabrication process).
8. Art glass, acrylics and diffusers to be selected (To be reviewed and approved as part of the fabrication process).
9. Manufacturer to provide shop drawings for fixture, which should include all dimensions, materials and lamping.
10. Following the approval of shop drawings the owner, architect and lighting designer will review elements of the lighting fixtures as fabrication proceeds including: metal finish diffuser finish, component details (i.e. rosette, finial and canopy). This review is intended to occur at the factory and provide the owner and design team an opportunity to view and approve specific detail elements of the fixture. This

process is not intended to delay release for fixture fabrication but allow the owner an opportunity to engage and participate in the fabrication process. All scheduling implication should be clearly noted as the process develops.

11. Lighting Designer, Architect and Client will make trips to the factory to review and comment on fixture several times through out the manufacturing process.
12. Contractor to coordinate mounting with wall construction details. Fixture canopy to sit flush with wall without any visible gap.
13. Manufacturer to provide suggested mounting details and overall fixture weight. Contractor to coordinate and verify that wall structure and support will be adequate to support fixture.

Location: West Point Room Entry and Library Stack Entries
Supply: 277V
Lamp: (1) PL-L-18/835, (Philips)

F8B

Description: Same as Fixture "F8A", except with a 120V ballast
Manufacturers: Baldinger
Hess
Rambusch
Crenshaw
Mounting Type: Wall Condition.
Remarks: All notes for fixture F8A apply
Location: West Point Room
Supply: 120V
Lamp: (1) PL-L-18/835, (Philips)

F9

Description: Exterior Wall surface mounted 6"Ø x 9"H indirect/direct metal halide sconce with integral electronic ballast.
Manufacturers: Hess, #Messina 80 MW - 277
Mounting Type: Exterior Trim Condition.
Remarks: Contractor to verify and coordinate fixture trim with trim details and mounting heights, refer to architectural plans and details. Fixtures to fit flush with surface plane with no visible gaps
Location: Window Frame
Supply: 277V
Lamp: (2) CDM35/PAR20/M/FL, (Philips)

F10

Description: Pendant cable mounted 7"Ø x 13.5" H compact fluorescent downlight, with opal glass diffuser frosted on the exterior, electronic ballast located in the junction box . Suspension length to be determined.
Manufacturers: Delray, #2342/H/O/26/277V/Mod-Frost Diffuser Exterior
Prisma, # Optalum 19-26WCF-277V
Remarks: Contractor to verify and coordinate fixture trim with ceiling details and mounting heights, refer to architectural plans and details. Fixtures to fit flush with ceiling plane with no visible gaps.
Location: Library Stacks and Office Suite Reception Areas
Mounting Type: Gypsum Board Ceiling Slot and Acoustical Ceilings
Supply: 277V

Lamp: (1) PL-T 26W/835/4P/ALTO, (Philips)

F11 Description: 4’-0” dia. X 7’-0”H Custom pendant with fluorescent lamping, machined and cast aluminum housing with twisted metal banding, (4) mounting stems and canopy in a wrought iron simulated finish, art glass diffusers with an opal acrylic internal diffuser, and integral dimming ballast(s)

Manufacturers: Baldinger
Rambusch
Crenshaw

Mounting Type: Gypsum Board Ceiling System.

Remarks:

1. Refer to drawings E719 and E704-AR for more detailed information regarding the fixture’s overall dimensions, components, and finishes.
2. Fixtures shall be design build and will continue to develop through the shop drawing process.
3. Fixtures to have U.L. Label
4. Manufacture to guarantee all metals shall not sag, warp or easily dent. All metals to maintain a straight profile/edge after installation
5. All exposed joints to be fully welded and ground smooth with no visible seams.
6. All exposed metals to be finished in a faux wrought iron finish (To be reviewed and approved as part of the fabrication process).
7. Art glass, acrylics and diffusers to be selected (To be reviewed and approved as part of the fabrication process).
8. Manufacturer to provide shop drawings for fixture, which should include all dimensions, materials and lamping.
9. Following the approval of shop drawings the owner, architect and lighting designer will review elements of the lighting fixtures as fabrication proceeds including: metal finish diffuser finish, component details (i.e. rosette, finial and canopy). This review is intended to occur at the factory and provide the owner and design team an opportunity to view and approve specific detail elements of the fixture. This process is not intended to delay release for fixture fabrication but allow the owner an opportunity to engage and participate in the fabrication process. All scheduling implication should be clearly noted as the process develops.
10. Lighting Designer, Architect and Client will make trips to the factory to review and comment on fixture several times through out the manufacturing process.
11. Contractor to coordinate mounting with all ceiling details. Fixture canopy to sit flush with ceiling without any visible gap.
12. Manufacturer to provide suggested mounting details and overall fixture weight. Contractor to coordinate and

verify that ceiling structure and support will be adequate to support fixture.

Location: Library Stacks Reading Area
Supply: 277V
Lamp: (8) F32T8/ADV835/ALTO, (Philips)

F11A Description: Similar to fixture type F11, except for smaller in scale (3’0” dia)

Manufacturers: Baldinger
Rambusch
Crenshaw

Mounting Type: Gypsum Board Ceiling System.

Remarks:

1. Refer to drawings E720 and E705-AR for more detailed information regarding the fixture’s overall dimensions, components, and finishes.
2. Fixtures shall be design build and will continue to develop through the shop drawing process.
3. Fixtures to have U.L. Label
4. Manufacture to guarantee all metals shall not sag, warp or easily dent. All metals to maintain a straight profile/edge after installation
5. All exposed joints to be fully welded and ground smooth with no visible seams.
6. All exposed metals to be finished in a faux wrought iron finish (To be reviewed and approved as part of the fabrication process).
7. Art glass, acrylics and diffusers to be selected (To be reviewed and approved as part of the fabrication process).
8. Manufacturer to provide shop drawings for fixture, which should include all dimensions, materials and lamping.
9. Following the approval of shop drawings the owner, architect and lighting designer will review elements of the lighting fixtures as fabrication proceeds including: metal finish diffuser finish, component details (i.e. rosette, finial and canopy). This review is intended to occur at the factory and provide the owner and design team an opportunity to view and approve specific detail elements of the fixture. This process is not intended to delay release for fixture fabrication but allow the owner an opportunity to engage and participate in the fabrication process. All scheduling implication should be clearly noted as the process develops.
10. Lighting Designer, Architect and Client will make trips to the factory to review and comment on fixture several times through out the manufacturing process.
11. Contractor to coordinate mounting at outlet box location. Fixture canopy to sit flush with ceiling without any visible gap.
12. Manufacturer to provide suggested mounting details and overall fixture weight. Contractor to coordinate and verify that ceiling structure and support will be adequate to support fixture.

Location: Archive Building

Supply: 277V
Lamp: (4) PL-L 40W/835/RS/IS, (Philips)

F11B Description: Similar to fixture type F11, except for smaller in scale (3’0” dia) and surface mounted to ceiling.

Manufacturers: Baldinger
Rambusch
Crenshaw

Mounting Type: Gypsum Board Ceiling System.

Remarks:

1. Refer to drawings E721 and E706-AR for more detailed information regarding the fixture’s overall dimensions, components, and finishes.
2. Fixtures shall be design build and will continue to develop through the shop drawing process.
3. Fixtures to have U.L. Label
4. Manufacture to guarantee all metals shall not sag, warp or easily dent. All metals to maintain a straight profile/edge after installation
5. All exposed joints to be fully welded and ground smooth with no visible seams.
6. All exposed metals to be finished in a faux wrought iron finish (To be reviewed and approved as part of the fabrication process).
7. Art glass, acrylics and diffusers to be selected (To be reviewed and approved as part of the fabrication process).
8. Manufacturer to provide shop drawings for fixture, which should include all dimensions, materials and lamping.
9. Following the approval of shop drawings the owner, architect and lighting designer will review elements of the lighting fixtures as fabrication proceeds including: metal finish diffuser finish, component details (i.e. rosette, finial and canopy). This review is intended to occur at the factory and provide the owner and design team an opportunity to view and approve specific detail elements of the fixture. This process is not intended to delay release for fixture fabrication but allow the owner an opportunity to engage and participate in the fabrication process. All scheduling implication should be clearly noted as the process develops.
10. Lighting Designer, Architect and Client will make trips to the factory to review and comment on fixture several times through out the manufacturing process.
11. Contractor to coordinate mounting at outlet box location. Fixture canopy to sit flush with ceiling without any visible gap.
12. Manufacturer to provide suggested mounting details and overall fixture weight. Contractor to coordinate and verify that ceiling structure and support will be adequate to support fixture.

	Location:	Archive Building
	Supply:	277V
	Lamp:	(3) PL-L40/835/RS/IS, (Philips)

F12	Description:	Recess mounted 2"Ø LED step light & orientation luminaire with white LED color and frosted prismatic glass and remote power supply.
	Manufacturers:	Erco, # 33864.023 Zumtobel # LDMFW
	Mounting Type:	Wall Conditions.
	Remarks:	Power supply should be sized to handle the load for each floor. Power supply shall be located in a well-ventilated and accessible location. Contractor to verify and coordinate fixture trim with floor and wall details refer to architectural plans and details. Fixtures to fit flush with surface plane with no visible gaps. See attached sketch located with the fixture cut for mounting height.
	Location:	Atrium Stair
	Supply:	120/12V
	Lamp:	(1) 5W LED Unit

F13	Description:	Recess mounted 2'-0" x 2'-0" X 6"H (3) lamp biax fluorescent troffer with opal acrylic lens.
	Manufacturers:	Army Corps of Engineers, Type RF8 Modified
	Mounting Type:	Acoustic Ceiling Tile System.
	Remarks:	Contractor to verify and coordinate fixture trim with ceiling details, refer to architectural plans and details. Fixtures to fit flush with ceiling plane with no visible gaps.
	Location:	Storage Rooms
	Supply:	277V
	Lamp:	(3) PL-L40/835/RS/IS, (Philips)

F14	Description:	Wall surface mounted 9"W x 8"D continuous linear fluorescent direct slot fixture with a die formed steel housing, telescoping ends, white straight blade continuous louver and integral electronic ballast.
	Manufacturers:	Army Corps of Engineers, Type SF9
	Mounting Type:	Acoustical Ceiling Tile
	Remarks:	Contractor is to coordinate fixture lengths with architectural drawings for continuous run conditions. Use 4'-0" lengths wherever possible. Provide all necessary hardware for a complete working system. Contractor to verify and coordinate fixture trim with ceiling details, refer to architectural plans and details.
	Location:	Toilet Rooms
	Supply:	277V
	Lamp:	(2) F32T8/ADV835/ALTO, (Philips)

	Bid Notes:	Provide shop drawings for review and approval of all row lengths and power feed conditions.

F15 NOT USED

F16 NOT USED

F17	Description:	Surface mounted 2′ x 2′ x 14″H single lamp metal halide floodlight with a die formed aluminum housing, hinged door with prismatic tempered glass, semi specular aluminum reflector, white polyester powder coat finish and integral ballast.
	Manufacturers:	Army Corps of Engineers, Type SH1/100W/277/white poly
	Remarks:	Contractor to verify and coordinate fixture trim with ceiling details, refer to architectural plans and details. Fixtures to fit flush with ceiling plane with no visible gaps.
	Location:	Loading Dock
	Mounting Type:	Surface ceiling
	Supply:	277V
	Lamp:	(1) MHC/C/U/MP/3K, (Philips)

F18	Description:	Display illumination integral with display cases.
	Manufacturers:	See Specification Section 10410, ALUM. DISPLAY CASES
	Mounting Type:	Millwork Conditions.
	Remarks:	EC to provide dedicated duplex outlet at each location.
	Location:	Aluminum Display Cases
	Supply:	120V
	Lamp:	See FFE package
	Bid Notes:	**Pertains to Bid Options #7 and #15 only.**

F19	Description:	Custom or Custom modified exterior wall surface mounted single lamp compact fluorescent sconce, nominal 6′-0"H x 12" projection. Cast aluminum sandblasted body painted to match wrought iron, acrylic internal diffuser, custom lamp and diffuser shield consisting of aluminum arms, decorative grills, sandblasted art glass diffuser and integral 0 degree electronic ballast. Wet label.
	Manufacturers:	Baldinger Hess Rambusch Crenshaw
	Mounting Type:	Exterior Wall Condition.
	Remarks:	1. Manufactures shall price option 1-complete custom and option 2-modified standard with custom components. 2. Basis of design: Hess “Riva”. Refer to fixture cut sheet and drawing E722 for more detailed information regarding the fixture’s overall dimensions,

components, finishes and Custom modified vs. Custom options.
3. Fixtures shall be design build and will continue to develop through the shop drawing process.
4. Fixtures to have U.L. Label
5. Manufacture to guarantee all metals shall not sag, warp or easily dent. All metals to maintain a straight profile/edge after installation
6. All exposed joints to be fully welded and ground smooth with no visible seams.
7. All exposed metals to be finished in a faux wrought iron finish (To be reviewed and approved as part of the fabrication process).
8. Art glass, acrylics and diffusers to be selected (To be reviewed and approved as part of the fabrication process).
9. Manufacturer to provide shop drawings for fixture, to include all dimensions, materials and lamping.
10. Following the approval of shop drawings the owner, architect and lighting designer will review elements of the lighting fixtures as fabrication proceeds including: metal finish diffuser finish, component details (i.e. rosette, finial and canopy). This review is intended to occur at the factory and provide the owner and design team an opportunity to view and approve specific detail elements of the fixture. This process is not intended to delay release for fixture fabrication but allow the owner an opportunity to engage and participate in the fabrication process. All scheduling implication should be clearly noted as the process develops.
11. Lighting Designer, Architect and Client will make trips to the factory to review and comment on fixture several times through out the manufacturing process.
12. Contractor to coordinate mounting wall construction details. Fixture canopy to sit flush with wall without any visible gap.
13. Manufacturer to provide suggested mounting details and overall fixture weight. Contractor to coordinate and verify that wall structure and support will be adequate to support fixture.

Location: Exterior Entrances
Supply: 277V
Lamp: (1) PL-T 26W/835/4P/ALTO, (Philips)

F20 Description: Not Used

F21D Description: 4’-0” dia. Custom pendant with compact fluorescent lamping, machined and cast aluminum housing with twisted metal banding, (4) mounting stems and canopy in a wrought iron simulated finish, art glass diffusers with an opal acrylic internal diffuser, and integral Hi-Lume dimming ballast(s)
Manufacturers: Baldinger
Rambusch
Crenshaw
Mounting Type: Gypsum Board Ceiling System.
Remarks:

1. Refer to drawing E723 for more detailed information regarding the fixture's overall dimensions, components, and finishes.
2. Fixtures shall be design build and will continue to develop through the shop drawing process.
3. Fixtures to have U.L. Label
4. Manufacture to guarantee all metals shall not sag, warp or easily dent. All metals to maintain a straight profile/edge after installation
5. All exposed joints to be fully welded and ground smooth with no visible seams.
6. All exposed metals to be finished in a faux wrought iron finish (To be reviewed and approved as part of the fabrication process).
7. Art glass, acrylics and diffusers to be selected (To be reviewed and approved as part of the fabrication process).
8. Manufacturer to provide shop drawings for fixture, to include all dimensions, materials and lamping.
9. Following the approval of shop drawings the owner, architect and lighting designer will review elements of the lighting fixtures as fabrication proceeds including: metal finish diffuser finish, component details (i.e. rosette, finial and canopy). This review is intended to occur at the factory and provide the owner and design team an opportunity to view and approve specific detail elements of the fixture. This process is not intended to delay release for fixture fabrication but allow the owner an opportunity to engage and participate in the fabrication process. All scheduling implication should be clearly noted as the process develops.
10. Lighting Designer, Architect and Client will make trips to the factory to review and comment on fixture several times through out the manufacturing process.
11. Contractor to coordinate mounting ceiling details. Fixture canopy to sit flush with ceiling without any visible gap.
12. Manufacturer to provide suggested mounting details and overall fixture weight. Contractor to coordinate and verify that ceiling structure and support will be adequate to support fixture.

Supply: 120V
Location: West Point Room
Lamp: (4) PL-L 40W/835/RS/IS, Philips

F21A Description: Similar to fixture type F21D, except with electronic ballast(s)
Manufacturers: Baldinger
Rambusch
Crenshaw
Mounting Type: Gypsum Board Ceiling System.
Remarks:

1. Refer to drawing E724 for more detailed information regarding the fixture's overall dimensions, components, and finishes.
2. Fixtures shall be design build and will continue to develop through the shop drawing process.
3. Fixtures to have U.L. Label

4. Manufacture to guarantee all metals shall not sag, warp or easily dent. All metals to maintain a straight profile/edge after installation
5. All exposed joints to be fully welded and ground smooth with no visible seams.
6. All exposed metals to be finished in a faux wrought iron finish (To be reviewed and approved as part of the fabrication process).
7. Art glass, acrylics and diffusers to be selected (To be reviewed and approved as part of the fabrication process).
8. Manufacturer to provide shop drawings for fixture, to include all dimensions, materials and lamping.
9. Following the approval of shop drawings the owner, architect and lighting designer will review elements of the lighting fixtures as fabrication proceeds including: metal finish diffuser finish, component details (i.e. rosette, finial and canopy). This review is intended to occur at the factory and provide the owner and design team an opportunity to view and approve specific detail elements of the fixture. This process is not intended to delay release for fixture fabrication but allow the owner an opportunity to engage and participate in the fabrication process. All scheduling implication should be clearly noted as the process develops.
10. Lighting Designer, Architect and Client will make trips to the factory to review and comment on fixture several times through out the manufacturing process.
11. Contractor to coordinate mounting with ceiling details. Fixture canopy to sit flush with ceiling without any visible gap.
12. Manufacturer to provide suggested mounting details and overall fixture weight. Contractor to coordinate and verify that ceiling structure and support will be adequate to support fixture.

Supply: 120V
Location: West Point Entry
Lamp: (4) PL-L 40W/835/RS/IS, Philips

F21B Description: Similar to fixture type F21A, except overall height, surface mounting, and lamping
Manufacturers: Baldinger
Rambusch
Crenshaw
Mounting Type: Gypsum Board Ceiling System.
Remarks:

13. Refer to drawing E725 for more detailed information regarding the fixture’s overall dimensions, components, and finishes.
14. Fixtures shall be design build and will continue to develop through the shop drawing process.
15. Fixtures to have U.L. Label
16. Manufacture to guarantee all metals shall not sag, warp or easily dent. All metals to maintain a straight profile/edge after installation
17. All exposed joints to be fully welded and ground smooth with no visible seams.

18. All exposed metals to be finished in a faux wrought iron finish (To be reviewed and approved as part of the fabrication process).
19. Art glass, acrylics and diffusers to be selected (To be reviewed and approved as part of the fabrication process).
20. Manufacturer to provide shop drawings for fixture, to include all dimensions, materials and lamping.
21. Following the approval of shop drawings the owner, architect and lighting designer will review elements of the lighting fixtures as fabrication proceeds including: metal finish diffuser finish, component details (i.e. rosette, finial and canopy). This review is intended to occur at the factory and provide the owner and design team an opportunity to view and approve specific detail elements of the fixture. This process is not intended to delay release for fixture fabrication but allow the owner an opportunity to engage and participate in the fabrication process. All scheduling implication should be clearly noted as the process develops.
22. Lighting Designer, Architect and Client will make trips to the factory to review and comment on fixture several times through out the manufacturing process.
23. Contractor to coordinate mounting with ceiling details. Fixture canopy to sit flush with ceiling without any visible gap.
24. Manufacturer to provide suggested mounting details and overall fixture weight. Contractor to coordinate and verify that ceiling structure and support will be adequate to support fixture.

Supply: 120V
Location: West Point Entry
Lamp: (3) PL-L 40W/835/RS/IS, Philips

F22 Description: Recessed incandescent low voltage lensed wall washer nominal 4" diameter white face plate with 2" open aperture, frosted glass lens and 3 ¾" D x 15" W x 9 ¾" L, housing with integral electronic transformer.
Manufacturers: USA Illumination, Inc., # 7999-10 / 325NC-277V
RSA, # ACT-2085-WH-Frosted Lens/ACT950-277V
Mounting Type: Gypsum Board Ceiling and Acoustical Ceilings. Contractor to verify.
Remarks: Contractor to verify and coordinate fixture trim with ceiling details, refer to architectural plans and details. Fixtures to fit flush with ceiling plane with no visible gaps
Location: Various Areas
Supply: 277/12V
Lamp: (1) 50mr16/IR/WF60, (OSRAM SYLVANIA)

F22D Description: Same as fixture type "F22", except for voltage.
Manufacturers: USA Illumination, Inc., # 7999-10 / 325NC-120V
RSA, # ACT-2085-WH-Frosted Lens/ACT950-120V

	Mounting Type:	Gypsum Board Ceiling and Acoustical Ceilings. Contractor to verify.
	Remarks:	Contractor to verify and coordinate fixture trim with ceiling details, refer to architectural plans and details. Fixtures to fit flush with ceiling plane with no visible gaps
	Location:	Various Areas
	Supply:	120/12V
	Lamp:	(1) 50mr16/IR/WF60, (OSRAM SYLVANIA)

F23D	Description:	Fully recessed nominal 1’W x 4’L x 5”H two lamp T8 fluorescent two lamp direct/indirect troffer with 20ga. housing and 24ga. die formed smooth reflector in baked white enamel (88%), and perforated lamp basket (34% open) in white enamel finish with (.020”) white acrylic inlay and integral Hi Lume dimming ballast.
	Manufacturers:	Zumtobel, #RCT(mod)1x4-232-PW-120-Hi Lume Neoray, # 7-642-T8-120-Hi Lume-EM
	Remarks:	Fixtures must be able to run continuous end to end. Contractor and Architect to verify and coordinate all mounting details including fixture trim, fixture dimensions, etc. Fixture trim to sit flush with ceiling plane.
	Location:	Conference and AV rooms
	Supply:	120V volts
	Lamp:	(2) F32T8/ADV835/ALTO, (Philips)

F24	Description:	Cable mounted 1'-0"x 4'-0" linear fluorescent direct/indirect pendant with die formed and welded cold rolled steel housing, semi-specular parabolic louver, white baked enamel finish and integral electronic ballast.
	Manufacturers:	Army Corps of Engineers, Type PF2
	Mounting Type:	Suspended Ceiling System.
	Remarks:	Contractor is to coordinate fixture lengths with architectural drawings for continuous run conditions. Provide all necessary hardware for a complete working system. Contractor to verify and coordinate fixture trim with ceiling details and mounting heights, refer to architectural plans and details. Fixture canopies to fit flush with ceiling plane with no visible gaps.
	Location:	Archives, Stacks and Offices
	Supply:	277V
	Lamp:	(2) F32T8/ADV835/ALTO, (Philips)
	Bid Notes:	Provide shop drawings for review and approval of all row lengths and power feed conditions.

F25	Description:	Surface mounted 1'-1"Ø compact fluorescent downlight with cross baffle.
	Manufacturers:	Army Corps of Engineers, Type SF2/F26DTT/RS
	Mounting Type:	Gypsum Board Ceiling.
	Remarks:	Contractor to verify and coordinate fixture trim with ceiling details, refer to architectural plans and details. Fixtures to fit flush with ceiling plane with no visible gaps.

	Location:	Archive Stacks
	Supply:	277V
	Lamp:	(2) PL-C 26W/835/ALTO, (Philips)

F25EM	Description:	Same as F25, but with emergency ballast.
	Manufacturers:	Army Corps of Engineers, Type SF2/F26DTT/RS
	Mounting Type:	Gypsum Board Ceiling.
	Remarks:	Contractor to verify and coordinate fixture trim with ceiling details, refer to architectural plans and details. Fixtures to fit flush with ceiling plane with no visible gaps.
	Location:	Archive Stacks
	Supply:	277V
	Lamp:	(2) PL-C 26W/835/ALTO, (Philips)

F26	Description:	Pendant mounted 1'-4"Ø compact fluorescent downlight with wire guard.
	Manufacturers:	Army Corps of Engineers, Type PF12-wire guard-white
	Mounting Type:	Gypsum Board Ceiling System.
	Remarks:	Contractor to verify and coordinate fixture trim with ceiling details and fixture mounting height, refer to architectural plans and details.
	Location:	Archive Stacks
	Supply:	277V
	Lamp:	(1) PL-C 26W/835/ALTO, (Philips)

F26EM	Description:	Same as F26, except with emergency ballast.
	Manufacturers:	Army Corps of Engineers, Type PF12-wire guard-white-EM
	Mounting Type:	Gypsum Board Ceiling System.
	Remarks:	Contractor to verify and coordinate fixture trim with ceiling details and fixture mounting height, refer to architectural plans and details.
	Location:	Archive Stacks
	Supply:	277V
	Lamp:	(1) PL-C 26W/835/ALTO, (Philips)

F27	Description:	Recess mounted 6"Ø single lamp compact fluorescent downlight with a semi-specular self-flanged reflector cone, nominal 6" Ø x 12 ¼"H galvanized steel housing and integral electronic ballast.
	Manufacturers:	Army Corps of Engineers, Type RF2
	Mounting Type:	Gypsum Board Ceiling and Acoustical Ceilings. Contractor to verify.
	Remarks:	Contractor to verify and coordinate fixture trim with ceiling details, refer to architectural plans and details. Fixtures to fit flush with ceiling plane with no visible gaps.
	Location:	Office Corridors
	Supply:	277V
	Lamp:	(1) PLT-32/835/4P/ALTO, (Philips)

F27A	Description:	Same as F27, except with a damp label
	Manufacturers:	Army Corps of Engineers, Type RF2-damp label
	Mounting Type:	Gypsum Board Ceiling and Acoustical Ceilings. Contractor to verify.

	Remarks:	Contractor to verify and coordinate fixture trim with ceiling details, refer to architectural plans and details. Fixtures to fit flush with ceiling plane with no visible gaps.
	Location:	Shower
	Supply:	277V
	Lamp:	(1) PLT-32/835/4P/ALTO, (Philips)

F27EM	Description:	Same as F27, except with emergency ballast.
	Manufacturers:	Army Corps of Engineers, Type RF2-EM
	Mounting Type:	Gypsum Board Ceiling and Acoustical Ceilings. Contractor to verify.
	Remarks:	Contractor to verify and coordinate fixture trim with ceiling details, refer to architectural plans and details. Fixtures to fit flush with ceiling plane with no visible gaps.
	Location:	Archive Building
	Supply:	277V
	Lamp:	(1) PLT-32/835/4P/ALTO, (Philips)

F28	Description:	Fully recessed two lamp compact fluorescent 2' x 2' troffer with (2) white perforated metal lamp shields with acrylic overlay with matte white reflector. Recessed depth is 6-1/4", and fixture has integral electronic HPF ballast.
	Manufacturer:	Zumtobel, # RCT-22-2405-P-W-277 Neoray # 202-2Bx-xx Ceiling-277v Legion # 582-2BX40-EBX-277 National # AST22-240Bx-PFM-xxCeiling-277V
	Mounting Type:	Acoustical Ceiling.
	Remarks:	Contractor to verify and coordinate mounting details and locations. Electrical Engineer to coordinate and verify voltage and electrical feed. Contractor to provide all necessary hardware and accessories for proper installation.
	Location:	Copy Rooms, Open offices
	Supply:	277V
	Lamp:	(2) PL-L40W/35/RS, (Philips)

F28EM	Description:	Same as Fixture type F28, except with an emergency ballast
	Manufacturer:	Zumtobel, RCT-240bx-EM Neoray # 202-2Bx-xx Ceiling-120v-EM Legion # 582-2BX40-EBX-EM National # AST22-240Bx-PFM-xxCeiling-120V-EM
	Mounting Type:	Acoustical Ceiling.
	Remarks:	Contractor to verify and coordinate mounting details and locations. Electrical Engineer to coordinate and verify voltage and electrical feed. Contractor to provide all necessary hardware and accessories for proper installation.
	Location:	Archive Building
	Supply:	277V
	Lamp:	(2) PL-L40W/35/RS, (Philips)

F29	Description:	Display illumination integral with display cases.
	Manufacturers:	See FFE package
	Mounting Type:	Millwork Conditions.
	Remarks:	EC to provide dedicated duplex outlet at each location.
	Location:	Display Cases
	Supply:	120V
	Lamp:	See FFE package

F30	Description:	Fully recessed nominal 3"H x 10"W two lamp low voltage MR16 incandescent multiple downlight with aluminum housing, aperture frame painted matte white, white flange finish, white painted gimbal rings, frosted lens and integral magnetic step-down transformer.
	Manufacturers:	Zumtobel Staff, # RML10260-10260TWH-V2-WH-MR16LF Lightolier, # PA2M1675-WL-277 RSA, # CO216S-WH-WH-50-YK/WH-MAG-277-LN21SP
	Mounting Type:	Acoustical Ceiling.
	Remarks:	Contractor to verify and coordinate fixture trim with ceiling details. Fixtures to fit flush with ceiling plane with no visible gaps.
	Location:	Conference Rooms and Office Areas
	Supply:	277/12 volts
	Lamp:	(2) 50MR16/IR/WFL60/C, (Osram Sylvania)

F30D	Description:	Same as fixture type "F30", except 120/12v integral transformer.
	Manufacturers:	Zumtobel Staff, RML10260-10260TWH-V2-WH-MR16LF Lightolier, # PA2M1675-WL-120 RSA, # CO216S-WH-WH-50-YK/WH-MAG-120-LN21SP
	Mounting Type:	Gypsum Board Ceiling and Acoustical Ceilings
	Remarks:	Contractor to verify and coordinate fixture trim with ceiling details. Fixtures to fit flush with ceiling plane with no visible gaps.
	Location:	Conference Rooms
	Supply:	120/12 volts
	Lamp:	(2) 50MR16/IR/WFL60/C, (Osram Sylvania)

F30A	Description:	Ceiling recessed single lamp compact fluorescent downlight with nominal 7″ dia. opal diffuser, nominal 21" dia. x 7.5" H parabolic reflector and housing, integral ballast.
	Manufacturers:	Delray, # Saturn I 4700-2E-32W Ardee, # AL132-277
	Remarks:	Contractor to verify and coordinate fixture trim with ceiling details. Fixtures to fit flush with ceiling plane with no visible gaps.
	Location:	Open Areas
	Supply:	277 volts
	Lamp:	(1) PLT-32/835/4P/ALTO, (Philips)

F30AD	Description:	Same as F30A, except with a 120V Lutron Hi-Lume dimming ballast.
	Manufacturers:	Delray, # Saturn I 4700-2E-32W-Hi Lume Dimming Ardee, # AL132-120-Hi Lume Dimming

	Remarks:	Contractor to verify and coordinate fixture trim with ceiling details. Fixtures to fit flush with ceiling plane with no visible gaps.
	Location:	Conference Rooms
	Supply:	120 volts
	Lamp:	(1) PLT-32/835/4P/ALTO, (Philips)

F31	Description:	Not Used

F32	Description:	Not Used

F33	Description:	Wall surface mounted 4"Øx 26"H fluorescent sconce with a 4" projection, fluted glass diffuser with opal acrylic interior diffuser and integral electronic ballast.
	Manufacturers:	Translite Sonoma, #PR3-FT-BS-FE17
	Mounting Type:	Wall Condition. Height to be determined
	Remarks:	Contractor to verify and coordinate fixture trim with wall details and mounting heights, refer to architectural plans and details. Fixtures to fit flush with surface plane with no visible gaps.
	Location:	Fire Stairs
	Supply:	277V
	Lamp:	(1) F17T8/TL835, (Philips)

F33EM	Description:	Similar to type F33 except with emergency ballast
	Manufacturers:	Translite Sonoma, #PR3-FT-BS-FE17-EM
	Mounting Type:	Wall Condition. Height to be determined
	Remarks:	Contractor to verify and coordinate fixture trim with wall details and mounting heights, refer to architectural plans and details. Fixtures to fit flush with surface plane with no visible gaps.
	Location:	Archive Building
	Supply:	277V
	Lamp:	(1) F17T8/TL835, (Philips)

F34	Description:	Pendant chain or surface mounted 1'-0"x 4'-0" linear T8 fluorescent industrial strip fixture.
	Manufacturers:	Army Corps of Engineers, Type PF6
	Mounting Type:	Exposed Slab System.
	Remarks:	Contractor is to coordinate fixture lengths with architectural drawings for continuous run conditions. Provide all necessary hardware for a complete working system. Contractor to verify and coordinate fixture trim with ceiling details and mounting heights, refer to architectural plans and details. Fixtures to fit flush with ceiling plane with no visible gaps.
	Location:	Mechanical & Storage Areas
	Supply:	277V
	Lamp:	(2) F32T8/ADV835/ALTO, (Philips)
	Bid Notes:	Provide shop drawings for review and approval of all row lengths and power feed conditions.

F34EM	Description:	Similar to type F34 except, emergency ballast.
	Manufacturers:	Army Corps of Engineers, Type PF6-EM
	Mounting Type:	Exposed Slab System.
	Remarks:	Contractor is to coordinate fixture lengths with architectural drawings for continuous run conditions. Provide all necessary hardware for a complete working system. Contractor to verify and coordinate fixture trim with ceiling details and mounting heights, refer to architectural plans and details. Fixtures to fit flush with ceiling plane with no visible gaps.
	Location:	Archive Building
	Supply:	277V
	Lamp:	(2) F32T8/ADV835/ALTO, (Philips)
	Bid Notes:	Provide shop drawings for review and approval of run conditions and mounting details.

F35	Description:	Not Used

F36	Description:	Recessed incandescent low voltage retractable downlight nominal 5″ diameter white face plate with 2" open aperture, frosted glass lens and 3 ¾" D x 15" W x 9 ¾" L, housing with integral transformer.
	Manufacturers:	USA Illumination, Inc., # 71TW/8010-10-9143 RSA, # MLV3084/C500-277V/Forsted lens
	Mounting Type:	Gypsum Board Ceiling and Acoustical Ceilings. Contractor to verify.
	Remarks:	Contractor to verify and coordinate fixture trim with ceiling details, refer to architectural plans and details. Fixture trim shall fit flush with ceiling plane with no visible gaps
	Location:	Stairs
	Supply:	277/12V
	Lamp:	(2) 50MR16/IR/WFL60/C, (Osram Sylvania)

F37	Description:	Surface mounted compact fluorescent accent light, nominal 10.3″ W x 5.4" D, brass housing with guard and top cover, internally ice etched glass diffuser, integral ballast.
	Manufacturers:	Prisma, # Clipper Visa-26CF-277V Bega, # 2989P-277V-Brass Finishes
	Mounting Type:	Masonry Wall Contractor to verify.
	Remarks:	Contractor to verify and coordinate fixture trim with wall details and mounting heights, refer to architectural plans and details. Fixture trim to fit flush with wall plane with no visible gaps
	Location:	Roof Entry
	Supply:	277V
	Lamp:	(1) PL-C 26W/835/ALTO, (Philips)

F38	Description:	Wet location recessed metal halide open downlight nominal 5″ diameter stainless steel trim, 15″ L x 8" H housing with integral ballast.
	Manufacturers:	Bega, # 6940MH/541MH-277V
	Mounting Type:	Masonry ceiling

		Contractor to verify.
	Remarks:	Contractor to verify and coordinate fixture trim with ceiling details and mounting heights, refer to architectural plans and details. Fixture trim to fit flush with ceiling plane with no visible gaps
	Location:	Exterior Canopy
	Supply:	277V
	Lamp:	(1) CDM35/PAR20/M/FL, (Philips)

F39	Description:	Fully recess single lamp PAR 38 downlight, with 6″ dia. spun aluminum housing, semi- specular Alzak reflector and 11″ x 14″ x 10″H steel housing.
	Manufacturers:	Kurt Versen, # C7302-SC
	Mounting Type:	Acoustical ceiling Contractor to verify.
	Remarks:	Contractor to verify and coordinate fixture trim with ceiling details and mounting heights, refer to architectural plans and details. Fixtures to fit flush with ceiling plane with no visible gaps
	Location:	Library Stack 2 Story Reading Areas
	Supply:	120V
	Lamp:	(1) 90PAR38/HAL/FL28/LL, (Philips)

F40	Description:	Pendant cable mounted 11.5″ Ø x 13.5″ H compact fluorescent downlight with glass diffuser & 6.5″ H mounting canopy/ballast compartment and integral electronic ballast.
	Manufacturers:	Delray, # 2382/W/O/32/2/E Prisma, # Optalum 28FL-Frosted-32CF-277V
	Mounting Type:	Gypsum Board Ceiling and Acoustical Ceilings. Contractor to verify.
	Remarks:	Contractor to verify and coordinate fixture trim with ceiling details and mounting heights, refer to architectural plans and details. Fixtures to fit flush with ceiling plane with no visible gaps.
	Location:	Library Stacks and Office Suite Reception Areas
	Supply:	277V
	Lamp:	(1) PL-T 32W/835/ALTO, (Philips)

F40A	Description:	Same as F40, except different mounting lengths and conditions
	Manufacturers:	Delray, # 2382/W/O/32/2/E Prisma, # Optalum 28FL-Frosted-32CF-277V
	Mounting Type:	Gypsum Board Ceiling and Acoustical Ceilings. Contractor to verify.
	Remarks:	Contractor to verify and coordinate fixture trim with ceiling details and mounting heights, refer to architectural plans and details. Fixtures to fit flush with ceiling plane with no visible gaps.
	Location:	Rotunda Stair
	Supply:	277V
	Lamp:	(1) PL-T 32W/835/ALTO, (Philips)

F40B	Description:	Same as F40, except different mounting location and bid conditions.

	Manufacturers:	Delray, # 2382/W/O/32/2/E Prisma, # Optalum 28FL-Frosted-32CF-277V
	Mounting Type:	Mounted to signage above Circulation/Reference desks.
	Remarks:	Contractor to verify and coordinate fixture trim with ceiling details and mounting heights, refer to architectural plans and details. Fixtures to fit flush with ceiling plane with no visible gaps.
	Location:	Circulation and Reference desks.
	Supply:	277V
	Lamp:	(1) PL-T 32W/835/ALTO, (Philips)
	Bid Notes:	**Pertains to Bid Option #5 only.**

F41	Description:	Recessed metal halide PAR30 downlight, nominal 6″ Ø aperture, 14″ L x 7″ W x 10.5″ H housing, softglow clear cone, integral electronic ballast.
	Manufacturers:	Kurt Versen, # R7302/70PAR30L/SC/277V Edison Price, # ARC38/6-70-277-EOL
	Mounting Type:	Gypsum Board Ceiling
	Remarks:	Contractor to verify and coordinate fixture trim with ceiling details, refer to architectural plans and details. Fixture canopy to fit flush with ceiling plane with no visible gaps
	Location:	Rotunda Stairs
	Supply:	277V
	Lamp:	(1) CDM70/PAR30L/M/FL, (Philips)

F42 Description: Custom or Custom modified surface mounted single lamp compact fluorescent bollard, nominal 3’H x 6″ dia. Cast aluminum sandblasted body painted to match wrought iron, custom lamp and diffuser shield consisting of aluminum arms, decorative grills, sandblasted opal glass diffuser and integral electronic ballast.

Manufacturers:
Baldinger
Hess
Rambusch
Crenshaw

Mounting Type: Exterior Wall Condition.

Remarks:

1. Manufactures shall price option 1-complete custom and option 2-modified standard with custom components.
2. Basis of design: Hess “Riva”. Refer to fixture cut sheet and drawing E726 for more detailed information regarding the fixture’s overall dimensions, components, finishes and Custom modified vs. Custom options.
3. Fixtures shall be design build and will continue to develop through the shop drawing process.
4. Fixtures to have U.L. Label
5. Manufacture to guarantee all metals shall not sag, warp or easily dent. All metals to maintain a straight profile/edge after installation
6. All exposed joints to be fully welded and ground smooth with no visible seams.
7. All exposed metals to be finished in a faux wrought iron finish (To be reviewed and approved as part of the fabrication process).

8. Art glass, acrylics and diffusers to be selected (To be reviewed and approved as part of the fabrication process).
9. Manufacturer to provide shop drawings for fixture, to include all dimensions, materials and lamping.
10. Following the approval of shop drawings the owner, architect and lighting designer will review elements of the lighting fixtures as fabrication proceeds including: metal finish diffuser finish, component details (i.e. rosette, finial and canopy). This review is intended to occur at the factory and provide the owner and design team an opportunity to view and approve specific detail elements of the fixture. This process is not intended to delay release for fixture fabrication but allow the owner an opportunity to engage and participate in the fabrication process. All scheduling implication should be clearly noted as the process develops.
11. Lighting Designer, Architect and Client will make trips to the factory to review and comment on fixture several times through out the manufacturing process.
12. Manufacture to provide mounting details to contractor

Mounting Type: Contractor to verify.
Location: Pedestrian walkways
Supply: 277V
Lamp: (1) PLT-26/835/4P/ALTO, (Philips)

F43D

Description: Recessed PAR30 lens wallwash, nominal 6 1/2″ Ø aperture, 19″L x 16″W x 10.5″H housing, softglow clear cone and prismatic glass spread lens.
Manufacturers: Kurt Versen, # E7528/100PAR30/SC/120V
Edison Price, # DLWL39/6.5-100-120-EOL
Mounting Type: Gypsum Board Ceiling
Remarks: Contractor to verify and coordinate fixture trim with ceiling details, refer to architectural plans and details. Fixture canopy to fit flush with ceiling plane with no visible gaps
Location: West Point Room
Supply: 120V
Lamp: (1) 100PAR30/CAP/IR/FL40, (Osram)

F44

Description: Recessed incandescent low voltage adjustable accent light with nominal 4" diameter a retractable snoot with a 350° rotation and 90° vertical adjustment 2" open aperture, hex cell louver and 4″ D x 15" W x 10″ L, housing with integral electronic transformer.
Manufacturers: USA Illumination, Inc., # 8011-8177/ 71TW-277V
Mounting Type: Gypsum Board Ceiling and Acoustical Ceilings. Contractor to verify.
Remarks: Contractor to verify and coordinate fixture trim with ceiling details, refer to architectural plans and details. Fixtures to fit flush with ceiling plane with no visible gaps. Fixture to be focused post installation to illuminate statue and/or Artwork.
Location: Lobby
Supply: 277/12V

Lamp: 1) 50mr16/IR/WF60, (OSRAM SYLVANIA)
Note: This fixture added as part of Bid Amendment #2.

End of Fixture Schedule

SECTION 16510
APPENDIX "A"

MARGIN OF EXCELLENCE - ADDENDUM 3 - REVISED

ARCHITECTURAL LIGHTING FIXTURE SCHEDULE

Note:

1. Complete specification includes fixture schedule, fixture cuts and general fixture specification included in base building construction contract.

F20

Description: Recessed machined stainless steel compact fluorescent step light. 12-3/8″ x 3-1/4″ x 4″D brass housing with stainless steel face plate with integral opal acrylic lens and **integral 0° electronic ballast.**

Manufacturer: Bega, #2032P-**120V**
Belfer, #3510FPL-BHL-13-**120**-H

Remarks:

1. Fixtures to have U.L. Wet Label.
2. Contractor to coordinate mounting details with vertical metal post.
3. Manufacturer to provide shop drawings for fixture, which shall include all dimensions, materials, lamping and mounting condition. Contractor to coordinate mounting ceiling details. Fixture faceplate to sit flush with post without any visible gaps.

Location: Terrace
Supply: **120v**
Lamp: (1) PL-C 13W/835 (Philips)

End of Fixture Schedule